Blaine County, Idaho
Local Emergency Planning Committee
Working together for a safer community

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Blaine County Multi-Jurisdiction All Hazard Mitigation Plan

May 2015

Updated October 2018

Official Use Only

Not for Public Dissemination

EXECUTIVE SUMMARY

The Blaine County Multi-Jurisdiction All Hazard Mitigation Plan 2014 is a complete revision of the 2009 Blaine County Multi-jurisdiction All Hazard Mitigation Plan. The entire Hazard and Vulnerability Assessment was updated. The hazard ranking was changed, and a new format deployed that ranks the hazards according to five indices; 1) historical occurrence, 2) probability, 3) vulnerability, 4) spatial extent, i.e. the extent of impact based on geography, and 5) the magnitude, which looks specifically at the loss of life, injuries, and economic impact.

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Wildfire	3	4	4	2	4	**18**	**H**
Severe Winter Storms	3	4	3	4	3	**17**	**H**
Drought	3	4	2	4	3	**16**	**H**
River Flooding	3	4	3	3	3	**16**	**H**
Hazardous Matertials	2	4	2	3	3	**14**	**M**
Communicable Disease	1	2	3	4	4	**14**	**M**
Flash Flooding	3	4	3	2	2	**14**	**M**
Severe Weather	3	4	2	2	3	**14**	**M**
Landisdes	2	4	2	2	2	**12**	**M**
Avalanche	2	4	2	2	2	**12**	**M**
Structure Fire	3	4	2	1	2	**12**	**M**
Earthquake	2	3	3	2	2	**12**	**M**
Terrorism	0	2	3	3	4	**12**	**M**
Vector Borne Disease	1	1	2	2	2	**8**	**L**
Nuclear Event	0	1	2	2	3	**8**	**L**
Dam Failure	0	1	1	1	1	**4**	**L**
Riot/Demonstration/Civil Disobedience	0	1	1	1	1	**4**	**L**

The revision was under the direction of the Blaine County Local Emergency Planning Committee. Community involvement took three forms; 1) public participation in federal flood technical assistance meetings, 2) electronic access to Plan development and review, and 3) public access to elected officials briefings.

The Blaine County Mitigation Team was led by Charles Turner, the Blaine County Coordinator of Disaster Services who, under the direction of the Blaine County Sheriff and County Commissioners, is responsible, along with the Blaine County LEPC, for the coordinating implementation and reporting of the mitigation actions recommended in this Plan.

While the focus of this Plan is on County-wide mitigation activities, it was developed through an integrated effort by representatives from many County, State, and Federal jurisdictions. The Cities of Bellevue, Carey, Hailey, Ketchum, and Sun Valley also participated in the development of this Plan.

The *single most serious vulnerability* in Blaine County is power outages. Because of the remoteness of the Wood River Valley from other support services, the loss of commercial power due to a natural or man-made hazard has the potential to cause serious life safety issues to the residents of the community. Various natural and manmade disasters can, and do affect the electrical infrastructure in the County. Currently there is no redundancy built into the major transmission lines that feed electricity into the County; of special concern are the areas north of Hailey, including the Cities of Ketchum and Sun Valley.

The following hazards pose a threat to the electrical infrastructure in Blaine County:

- Severe Winter Storm
- Lightning
- Hail
- Tornado
- Straight Line Wind
- Earthquake
- Landslide/Mudslide
- Wildland Fire

Of the aforementioned hazards seven (7) are surface hazards; they occur above ground, and one (1), earthquake, occurs below ground, but affects both above and below ground. The existing transmission lines are run above ground, which is a standard procedure.[1]

Outage Type	Total Events	Occ/yr	Duration (min)	Duration/Occ (min)
Maintenance	3	0.152	554	184.67
Sustained Unplanned	3	0.152	189	63.00
Momentary Unplanned	2	0.101	na	
Loss of Southern 138kV (mom and sustained)	6	0.304	756	126.00

Idaho Power Outages 1995-2014

Mitigation Actions have been reviewed, and a status was then provided by the LEPC. Goals and Objectives developed in the initial planning process were maintained, and additional mitigation actions were added to the Plan. The mitigation actions were developed and selected using the STAPLEE Method[2]. Projects were prioritized by the LEPC with each action given H, M, or L ranking.

There were 132 projects identified in the 2009 Blaine County Multi-Jurisdiction All Hazard Mitigation Plan. There were 65 Projects completed for a completion percentage of 49%. The remaining uncompleted projects were moved forward to the 2014 Mitigation Project Listing. The total moved forward plus those added totaled 127 projects of which 60 are new.

[1] Idaho Power, Wood River Electrical Plan. December 2007
[2] See Page 240

Project	Rank
Develop a Wildland Fire Ordinance which establishes the road widths, access, water supply, and building regulations suitable to ensure new structures can be protected.	H
Designate the WUI areas as a special land use category in the County Comprehensive Plan	H
Bank Armor Upstream Southwest Bank BCDR RR Bridge at Hospital Drive	H
Develop a listing of roads, bridges, cattle guards, culverts, and other limiting conditions and incorporate improvements into the County Transportation Plan	H
Enforcement of Right of Way in Order to Allow Road Drainage Work	H
Heatherland Firewise Communities Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	H
Conduct a study for recharge in flood prone areas	H
Continue Culvert and Bridge Maintenance/Placement and Gravel Road Upgrade Program	M
Bank Armor Upstream West Bank Bellevue Bridge at Broadford Road	M
Bank Armor Upstream East Bank BCRB Bridge Deer Creek Road	M
Fuel Reduction – North of Carey between Austin, Little Wood Reservoir, and Barton Roads. 175 Acres	M
Maintain CRS Status for the County	M
Fuel Reduction – Near Picabo and along Picabo Desert Road 125 Acres	M
Fuel Reduction – Beaver Creek and Sawtooth City Vicinity and North to County Line	M
Install Road Signs as prescribed by NFPA Standards	M
Install Seasonal Road Signage	M
Complete Floodplain Manager Certification Program	M
West of Little Wood Reservoir Road Fuel Reduction 350 Acres	M
Fuel Reduction – Near Gannett and along Punkin Center Road 150 Acres	M
Purchase Road Closed, Smoke Over Road and Water Over Road Signs	M
Smiley Creek Fuel Reduction 10 Acres	M
Fuel Reduction – Little Wood Reservoir road, South of the Reservoir 1,000 Acres	M
Fuel Reduction in the West Magic Area 5 Acres	M
Greenhorn Hillside Firewise Communities Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	M
Construct Injection Capability for floodwaters on Big Wood River	L
Stockpile Temporary Flood Fight Material at W. Glendale BCRB Shop	L
Scott Road Fuel Reduction Project 33 Acres	L
East Magic, Isolated Tracks Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting.	L
Develop a listing of schools and public buildings that need to be seismically retrofitted	L
Eagle Creek Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	L
Earthquake Protection or Hardening County facilities	L
Develop a standard practice for roadside vegetation management.	L
Develop a plan & methodology to protect livestock from biological threats	L
Conduct a County Terrorism assessment on all infrastructure, facilities, and digital systems	L:

The Plan, as developed, is designed specifically to enhance implementation. The jurisdictions have completed many of the mitigation actions and, as funding is available, additional mitigation actions will be addressed.

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SECTION 1 PLANNING PROCESS

2014 Revision summary: The planning process section has been restructured to document how this updated plan was developed and updated. It also reflects overall changes in the planning and mitigation strategy.

Blaine County Idaho and the incorporated cities that lie within the County boundaries are vulnerable to natural, technological, and man-made hazards that have the potential to cause serious harm to the health, welfare, and security of its residents. The cost of response to, and recovery from, disaster events can be lessened when attention is turned to mitigating their impacts and effects before they occur or re-occur.

This Plan seeks to identify the County's hazards, understand the vulnerabilities to those hazards, and craft solutions that, if implemented, will significantly reduce threats to life and property. The Plan is based on the premise that hazard mitigation works! With increased attention to managing natural hazards, communities can reduce the threats to citizens and, through proper land use and emergency planning, avoid creating new problems in the future. Many solutions can be implemented at minimal cost and social impact.

This is not an emergency response or management plan. The Plan can certainly be used to identify weaknesses and refocus emergency response planning. Enhanced emergency response planning is an important mitigation strategy. The focus of this Plan, however, is to support better decision making directed toward avoidance of future risk and to implement activities or projects that will eliminate or reduce current risks.

HAZARD MITIGATION

Hazard mitigation is defined as any cost-effective action(s) that has the effect of reducing, limiting, or preventing vulnerability of people, culture, property, and the environment to potentially damaging, harmful, or costly hazards. Hazard mitigation measures which can be used to eliminate or minimize the risk to life, culture, and property fall into three categories:

1) Keep the hazard away from people, property, and structures
2) Keep people, property, or structures away from the hazard
3) Reduce the impact of the hazard on victims and property, i.e., insurance

Hazard mitigation measures must be practical, cost effective, and culturally, environmentally, and politically acceptable. Actions taken to limit the vulnerability of society to hazards must not in themselves be more costly than the anticipated damages.

The primary focus of hazard mitigation planning must be at the point at which capital investment and land use decisions are made, based on vulnerability. Capital investments, whether for homes, roads, public utilities, pipelines, power plants, or public works, determine to a large extent the nature and degree of the hazard vulnerability of a community. Once a capital facility is in place, very few opportunities will present themselves over the useful life of the facility to correct any errors in location or

construction with respect to the hazard vulnerability. It is for this reason that zoning and other ordinances which manage development in high vulnerability areas, and building codes, which insure that new buildings are built to withstand the damaging forces of the hazards, are often the most useful tools in mitigation that a jurisdiction can implement.

Since the priority to implement mitigation activities is usually very low in comparison to the perceived threat, some important mitigation measures take time to implement. Mitigation success can be achieved, however, if accurate information is portrayed through complete hazard identification and impact studies, followed by effective mitigation management.

The Federal Emergency Management Agency has identified specific natural hazards to be analyzed by each jurisdiction, completing an All Hazard Mitigation Plan. The hazards analyzed in this Plan include those required, and others as selected by the County AHMP Committee. The hazards analyzed are as follows:

<u>Natural Hazards</u>

- Weather:
  - Drought
  - Extreme Weather
    - Extreme Heat
    - Lightning
    - Hail
    - Tornado
    - Straight Line Wind
  - Extreme Winter Weather
    - Extreme Cold
    - Severe Winter Storm
- Flooding:
  - Flash Flooding
  - River Flooding
  - Dam Failure
- Geologic:
  - Earthquake
  - Landslide/Mudslide
  - Snow Avalanche
- Other:
  - Wildfire
  - Biological
    - Vector Borne Disease
      - Bird Flu
      - West Nile
    - Mad Cow Disease
    - Hoof and Mouth Disease
    - Communicable Disease
      - SRS
      - Spanish Flu
      - Swine Flu
      - Pertussis
      - Ebola

Technological (Manmade) Hazards
- Structural Fire
- Nuclear Event
- Hazardous Material Event
- Riot/Demonstration/Civil Disorder
- Terrorism

PARTICIPATING JURISDICTIONS

This Plan covers Blaine County Idaho and the Cities of Bellevue, Carey, Hailey, Ketchum, and Sun Valley

BLAINE COUNTY ALL HAZARD MITIGATION PLANNING COMMITTEE

The Blaine County Multi-Jurisdiction All Hazard Mitigation Planning Committee was formed on October 9, 2008. Committee membership is comprised of representatives from the Blaine County Local Emergency Planning Committee, Blaine County Department heads, and the incorporated cities, representatives from the major utility providers, interested media, and members of the public. Minutes of the committee meetings are provided in Attachment 1.

The Committee Roster is provided below:

Agency	Representative	Position
Bureau of Homeland Security	Gary Davis	Central Area Field Officer
Ketchum Fire	Mike Elle	Fire Chief/City Point of Contact
Wood River Fire	Bart Lassman	Fire Chief
Sun Valley Police	Walt Flemling	Chief/City Point of Contact
Blaine County Sheriff's Office	Gene Ramsey	Sheriff
Blaine County Administration	Derek Voss	Administrator
Blaine County Planning and Zoning	Tom Bergin	Building Official/County Point of Contact
Sun Valley Fire Department	Ray Franco	Chief
Sun Valley Fire Department	Charlie Butterfield	Assistant Chief
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator LEPC Secretary
Blaine County Sheriff's Office	Steve Harkins	Chief Deputy
City of Sun Valley	Nils Ribi	Citizen

Agency	Representative	Position
MRTA	Rod Demke	
Blaine County Emergency Communications	Chris Corwin	GIS
Ketchum Fire Department	Robbie Englehart	Assistant Chief
Idaho Bureau of Homeland Security	Susan Cleverly	Mitigation Planner
Hailey Police Department	Dave Stellers	
Bellevue Fire Department	Greg Beaver	Chief
Salvation Army	Eddie Patterson	Major
Idaho State Police	Robert Storm	Captain
Sun Valley Water and Sewer District	Pat McMahon	
Hailey Fire Department	Craig Aberbach	Chief/City Point of Contact
Ketchum Planning and Zoning	Micah Austin	Planner
Blaine County Building Department	Bill Dyer	Building Official
Blaine County	Jacob Greenberg	
Carey Fire District	Richard Kimball	Chief
Ketchum Police Department	Steve Harkin	
Sun Valley Company	Mark Beelaert	
South Central Public Health District	Bob Erickson	
South Central Public Health District	Dan Schaffer	
Gem State Communications	Steve Theisen	
National Weather Service	Vernon Preston	Meteorologist
National Weather Service	Corey Loveland	Meteorologist
Sawtooth National Forest	Matt Filbert	FMO
SAC	Simon Trautman	
South Central Public Health District	Tami Pearson	Planner
Sawtooth National Forest	Kelly Lewis	
USACE	Brandon Hobbs	Silver Jacket Program Manager
BHS	Autumn Roberts	Planner
Sun Valley Police Department	Mike Crawford	Assistant Chief

Agency	Representative	Position
St. Lukes Medical Center	JoDee Alverson	Emergency Planner
Governor's Committee of Volunteerism	Cindy Jesinger	
Blaine County	Char Nelson	Operations/County Point of Contact
South Central Public Health District	Bob Erickson	
Blaine County Disaster Services	Chuck Turner	Coordinator/County Lead
Blaine County Commissioners	Angenie McCleary	Commissioner
Blaine County Emergency Communications	Robin Sellers	
Blaine County Sheriff's Office	Tito Rivera	
Sun Valley Fire Department	Taan Robrahn	
Sun Valley Fire Department	Reid Black	
City of Ketchum	Robyn Mattison	Public Works / CE
City of Hailey	Kristine Hilt	CFM/City Point of Contact
City of Hailey	Heather Dawson	City Administrator
City of Ketchum	Rebecca Bundy	St. Planner/City Point of Contact
Blaine County Schools	John Blackman	
City of Bellevue	Craig Eccles	Administrator/City Point of Contact
City of Carey	Brandi Hennefer	Planning and Zoning/City Point of Contact

In addition to participation in the AHMP Committee each of the participating jurisdictions points of contact facilitated review of the individual city sections of the Plan including but not limited to, community vulnerability review, risk ranking, project definition, project status, and project prioritization. The input from each jurisdiction was included as requested in the appropriate sections of the Plan.

AHMP COMMITTEE MEETINGS

Minutes, Agendas, and supporting information has been placed in Attachment 1.

November 14, 2013

The LEPC will begin to review the All Hazard Mitigation Plan for each city and the County. The Plan is to be reviewed and updated; this is needed for post incident funding.

Meeting Attendance Roster

Agency	Representative	Position
Bureau of Homeland Security	Gary Davis	Central Area Field Officer
Ketchum Fire	Mike Elle	Fire Chief
Wood River Fire	Bart Lassman	Fire Chief
Sun Valley Police	Mike Crawford	Assistant Chief
Blaine County Sheriff's Office	Gene Ramsey	Sheriff
Sun Valley Fire Department	Ray Franco	Chief
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator LEPC Secretary
City of Sun Valley	Nils Ribi	Councilman
Blaine County Emergency Communications	Chris Corwin	GIS
Ketchum Fire Department	Robbie Englehart	Fireman
Hailey Police Department	Dave Stellers	
Salvation Army	Eddie Patterson	Major
Idaho State Police	Robert Storm	Captain
Wood River Fire and Rescue	Jeff Nevins	Assistant Chief
Hailey Fire Department	Craig Aberbach	Chief
Blaine County Communications	Jacob Greenberg	
Carey Fire District	Richard Kimball	Chief
Blaine County	Char Nelson	Operations
South Central Public Health District	Bob Erickson	
Blaine County Disaster Services	Chuck Turner	Coordinator
Blaine County Commissioner	Angenie McCleary	
Blaine County Emergency Communications	Robin Sellers	
Hailey Fire Department	Mike Baledge	Deputy Chief

Agency	Representative	Position
Sawtooth National Forest	Kelly Lewis	
Sawtooth National Forest	Matt Filbert	

December 12, 2013

Susan Cleverly, BHS, discussed the AHMP which the committee will look at consistently starting in February 2014; this will be a 12 month project. Things to think about – what has happened over the past year (events mitigation, progress) and what changes took place; how does this apply to me, is the AHMP accurate/applicable and what new danger areas should be added? The Plan needs to be looked at and updated every 5 years. Consider any policy and procedures that have changed and budget areas where we can mitigate possibilities. One note – generators are not included. City and county representatives were given their respective sections to begin reviewing, and thus far only two have been returned. BHS is offering web editing; share point program for everyone to use for updating; once we are notified of this being funded we will inform the committee.

Meeting Attendance Roster

Agency	Representative	Position
Bureau of Homeland Security	Gary Davis	Central Area Field Officer
Ketchum Fire	Mike Elle	Fire Chief
Wood River Fire	Bart Lassman	Fire Chief
Blaine County Sheriff's Office	Gene Ramsey	Sheriff
Blaine County Administration	Derek Voss	Administrator
Blaine County Planning and Zoning	Tom Bergin	Building Official
Sun Valley Fire Department	Ray Franco	Chief
Sun Valley Fire Department	Charlie Butterfield	Assistant Chief
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator LEPC Secretary
Blaine County Sheriff's Office	Ed Fuller	
City of Sun Valley	Nils Ribi	Councilman
MRTA	Rod Demke	
Blaine County Emergency Communications	Chris Corwin	GIS
Ketchum Fire Department	Robbie Englehart	Fireman
Idaho Bureau of Homeland Security	Susan Cleverly	Mitigation Planner
American Red Cross	Wade Gayler	

Agency	Representative	Position
American Red Cross	Roger Hinton	
Hailey Police Department	Dave Stellers	
Bellevue Fire Department	Greg Beaver	Chief
Salvation Army	Eddie Patterson	Major
Idaho State Police	Robert Storm	Captain
Gem State Communications	Steve Thiesen	
Wood River Fire and Rescue	Jeff Nevins	Assistant Chief
Hailey Fire Department	Craig Aberbach	Chief
Ketchum Planning and Zoning	Joyce Allgaier	Planner
Blaine County Building Department	Bill Dyer	Building Official
Blaine County Communications	Jacob Greenberg	
Carey Fire District	Richard Kimball	Chief
Blaine County Disaster Services	Chuck Turner	Coordinator

To: All LEPC Members

Date: January 20, 2014

Folks, as you know, this year we will be updating Blaine County's All Hazard Mitigation Plan (AHMP), which means we will be gathering updated information new information, including names, charts, maps. This update will be over a number of months. Methods of data collection will include, but not be limited to, surveys, meetings of involved parties, and emails. At our next LEPC meeting, Autumn Roberts, BHS, will demo and give an interactive demonstration of the BHS's EOPT (Emergency Operations Planning Tool), an online instrument which enables us to access, view, and modify our current plan.

Some of you have already made some modifications of to the current copy, either hard copy or by email. All those with copies of the current AHMP (be it hard copy, CD, or online versions) should take time to look through parts of it that involve or affect you directly. Look for items needing updates, and note accordingly for future use. This new process that Autumn is going to demo at the LEPC on the 13th, will allow those who sign up to go to the online version of the plan, read the various sections, and make changes to the document.

Recall that after the 2009 edition of the AHMP came out, there were parts of it that were questioned. This was after several chances to review draft copies. Let's not let this happen again. Let's catch the changes and additions before it goes to print. YOUR INPUT IS IMPORTANT IF YOU HAVE A ROLE IN THIS DOCUMENT.

In order to participate in this EOPT workshop effectively, please bring a laptop AND let me know that you want admittance onto the site, and just view it and/or modify your area. Email me for access to the site. I will need your name and email address. Please do this by February 4th. Thanks.

Chuck Turner
Blaine County Disaster Services
Desk: (208)788-5508
Fax: (208)788-5509

Blaine County, Idaho
Local Emergency Planning Committee
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February 13, 2014

Autumn Roberts, BHS, did a demonstration on how to use the emergency operations planning tool (EOPT) for updating the AHMP. If committee members need access to the website they were directed to contact Chuck Turner. A copy of the handout on how to access the website and make changes was available from Stacy McLaughlin.

Meeting Attendance Roster

Agency	Representative	Position
Ketchum Fire	Mike Elle	Fire Chief
Wood River Fire	Bart Lassman	Fire Chief
Sun Valley Police	Walt Flemling	Chief
Blaine County Sheriff's Office	Gene Ramsey	Sheriff
Sun Valley Fire Department	Ray Franco	Chief
Sun Valley Fire Department	Charlie Butterfield	Assistant Chief
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator LEPC Secretary
City of Sun Valley	Nils Ribi	Citizen
MRTA	Rod Demke	
Blaine County Emergency Communications	Chris Corwin	GIS
Ketchum Fire Department	Robbie Englehart	Assistant Chief
Salvation Army	Eddie Patterson	Major
Wood River Fire and Rescue	Jeff Nevins	Assistant Chief
Gem State Communications	Steve Thiesen	
Blaine County Sheriff's Office	Steve Harkins	Chief Deputy
Sun Valley Company	Mark Beelaert	
South Central Public Health District	Bob Erickson	
South Central Public Health District	Tami Pearson	Planner
Carey Fire District	Richard Kimball	Chief
BHS	Gary Davis	South Central Idaho AFO
BHS	Autumn Roberts	Planner
Sun Valley Police Department	Mike Crawford	Officer
St. Lukes Medical Center	JoDee Alverson	Emergency Planner

Agency	Representative	Position
Governor's Committee of Volunteerism	Cindy Jesinger	
Blaine County Disaster Services	Chuck Turner	Coordinator

March 13, 2013

Brandon Hobbs, Army Corp of Engineers (USACE) reported on recent activities and studies that the Corp has performed in Blaine County. He gave a presentation that explained what the Corp does, what it can and can't do, and what services the County could expect in the event of a flood. "All Disasters start and end at the local level". Much of the products which the Corp has provided since 2009 can be used in the update of the AHMP.

Meeting Attendance Roster

Agency	Representative	Position
Ketchum Fire	Mike Elle	Fire Chief
Wood River Fire	Bart Lassman	Fire Chief
Sun Valley Police	Walt Flemling	Chief
Blaine County Sheriff's Office	Gene Ramsey	Sheriff
Sun Valley Fire Department	Ray Franco	Chief
Sun Valley Fire Department	Charlie Butterfield	Assistant Chief
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator LEPC Secretary
City of Sun Valley	Nils Ribi	Citizen
Blaine County Emergency Communications	Chris Corwin	GIS
Ketchum Fire Department	Robbie Englehart	Fireman
Salvation Army	Eddie Patterson	Major
Wood River Fire and Rescue	Jeff Nevins	Assistant Chief
Hailey Fire Department	Craig Aberbach	Chief
Blaine County Communications	Jacob Greenberg	
Gem State Communications	Steve Thiesen	
Ketchum Police Department	Steve Harkin	
Sun Valley Company	Mark Beelaert	
South Central Public Health District	Bob Erickson	
South Central Public Health District	Tami Pearson	Planner

Agency	Representative	Position
Sawtooth National Forest	Kelly Lewis	
American Red Cross	Dianna Ochsner	
American Red Cross	Chris Taylor	
USACE	Brandon Hobbs	
Blaine County Disaster Services	Chuck Turner	Coordinator

April 10, 2014

Waiting for the approval of the All Hazard Mitigation Grant; Blaine County was 1 of 3 counties awarded a grant this year. We may begin our review process using 2013 SHSGP Funds.

Meeting Attendance Roster

Agency	Representative	Position
Bureau of Homeland Security	Gary Davis	Central Area Field Officer
Wood River Fire	Bart Lassman	Fire Chief
Sun Valley Police	Walt Flemling	Chief
Blaine County Sheriff's Office	Gene Ramsey	Sheriff
Sun Valley Fire Department	Ray Franco	Chief
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator LEPC Secretary
City of Sun Valley	Nils Ribi	Citizen
MRTA	Rod Demke	
Blaine County Emergency Communications	Chris Corwin	GIS
Ketchum Fire Department	Robbie Englehart	Assistant Chief
Bellevue Fire Department	Greg Beaver	Chief
Salvation Army	Eddie Patterson	Major
Idaho State Police	Robert Storm	Captain
Sun Valley Water and Sewer District	Pat McMahon	
Wood River Fire and Rescue	Jeff Nevins	Assistant Chief
Blaine County	Jacob Greenberg	
Carey Fire District	Richard Kimball	Chief
Blaine County Sheriff's Offie	Steve Harkins	

Agency	Representative	Position
Sun Valley Company	Mark Beelaert	
South Central Public Health District	Bob Erickson	
South Central Public Health District	Dan Schaffer	
Gem State Communications	Steve Theisen	
National Weather Service	Vernon Preston	Meteorologist
National Weather Service	Corey Loveland	Meteorologist
Sawtooth National Forest	Bill Murphy	Ranger
SAC	Simon Trautman	
Blaine County Disaster Services	Chuck Turner	Coordinator

September 11, 2014

Rick Fawcett, Whisper Mountain, gave a presentation of Central Area Hazardous Material Flow Study and an update on the AHMP. The Flow Study was funded through a HMEP Grant and included eight (8) counties. If anyone is interested in a pdf of the presentation please contact Stacy McLaughlin.

Meeting Attendance Roster

Agency	Representative	Position
Bureau of Homeland Security	Gary Davis	Central Area Field Officer
Wood River Fire	Bart Lassman	Fire Chief
Sun Valley Police	Walt Flemling	Chief
Blaine County Sheriff's Office	Gene Ramsey	Sheriff
Sun Valley Fire Department	Ray Franco	Chief
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator LEPC Secretary
City of Sun Valley	Nils Ribi	Citizen
Ketchum Fire Department	Robbie Englehart	Assistant Chief
Ketchum Fire	Mike Elle	Fire Chief
Bellevue Fire Department	Greg Beaver	Chief
Salvation Army	Eddie Patterson	Major
Idaho State Police	Robert Storm	Captain
Wood River Fire and Rescue	Jeff Nevins	Assistant Chief
Blaine County	Jacob Greenberg	

Agency	Representative	Position
Carey Fire District	Richard Kimball	Chief
Blaine County Sheriff's Office	Steve Harkins	Chief Deputy
South Central Public Health District	Bob Erickson	
South Central Public Health District	Tami Pearson	Planner
Gem State Communications	Steve Theisen	
Blaine County Emergency Communications	Robin Sellers	
Blaine County Disaster Services	Chuck Turner	Coordinator
BHS	General Brad Richey	Director
Blaine County Sheriff's Office	Tito Rivera	
Hailey Fire Department	Craig Aberbach	Chief
Hailey Police Department	Dave Stellers	Assistant Cheif
Blaine County Building Department	Bill Dyer	Building Official
Blaine County Planning and Zoning	Tom Bergin	Administrator
Sun Valley Fire Department	Taan Robrhan	
Sun Valley Fire Department	Reid Black	

November 13, 2014

The Blaine County LEPC received the status of the progress on the revisions of the Blaine County Mult-Jurisdiction All Hazard Mitigation Plan. The Risk Assessment and Project Ranking will be presented on December 11, 2014.

Agency	Representative	Position
Bureau of Homeland Security	Gary Davis	Central Area Field Officer
Wood River Fire	Bart Lassman	Fire Chief
Blaine County Sheriff's Office	Gene Ramsey	Sheriff
Sun Valley Fire Department	Ray Franco	Chief
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator LEPC Secretary
City of Sun Valley	Nils Ribi	Citizen
Ketchum Fire Department	Robbie Englehart	Assistant Chief
Salvation Army	Eddie Patterson	Major
Red Cross	Diana Ochsner	

Agency	Representative	Position
Blaine County Schools	John Blackman	
South Central Public Health District	Bob Erickson	
South Central Public Health District	Dan Schaffer	Planner
Gem State Communications	Steve Theisen	
Blaine County Emergency Communications	Robin Sellers	
Blaine County Disaster Services	Chuck Turner	Coordinator
BHS	Steve Hayward	Planner
Hailey Fire Department	Craig Aberbach	Chief
Sawthooth National Forest	Michelle Erdie	
Sun Valley Police	Mike Crawford	
BHS	Autumn Roberts	Planner

The Meeting Minutes are provided in Attachment 1.

December 11. 2014

The Blaine County LEPC met to review the risk assessment conducted as part of the Blaine County Multi-Jurisdiction All Hazard Mitigation Plan. The Presentation was made by Rick Fawcett from Whisper Mountain. The LEPC also ranked the mitigation projects for Blaine County that are contained in the AHMP update.

Meeting Agenda, Minutes and Presentation are located in Attachment 1.

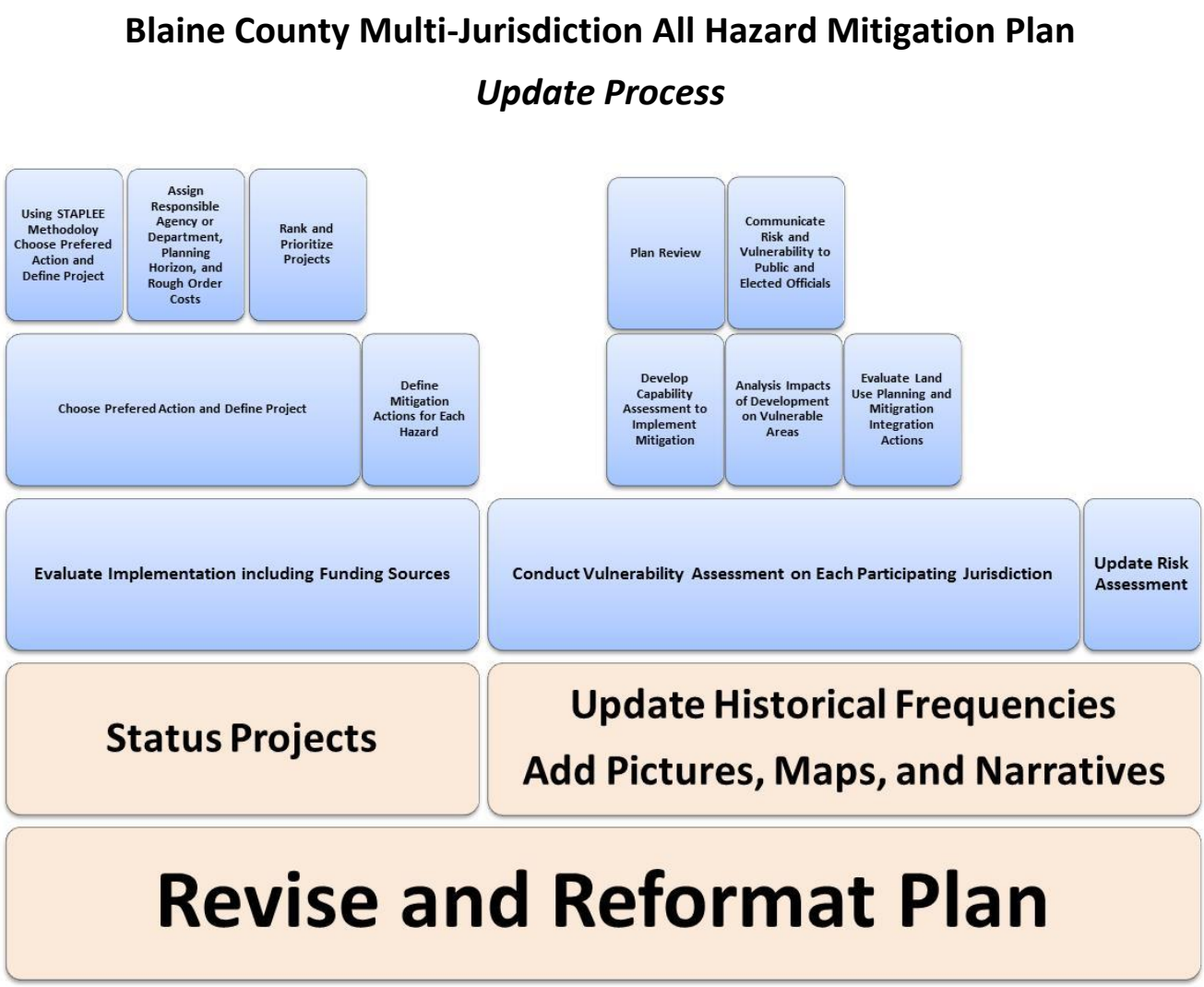
Agency	Representative	Position
Wood River Fire	Bart Lassman	Fire Chief
Sun Valley Fire Department	Ray Franco	Chief
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator LEPC Secretary
City of Sun Valley	Nils Ribi	Citizen
Salvation Army	Eddie Patterson	Major
Blaine County Schools	John Blackman	
Sun Valley Fire Department	Reid Black	Fireman
Gem State Communications	Steve Theisen	
Blaine County Disaster Services	Chuck Turner	Coordinator
Hailey Fire Department	Craig Aberbach	Chief

Agency	Representative	Position
Sun Valley Police	Walt Flemling	Chief
Blaine County Emergency Communications	Chris Corwin	GIS Specialist
South Central Public Health District	Dan Shaffer	Planner
Salvation Army	Eddie Patterson	Major
City of Hailey	Kristine Hilt	Floodplain Manager
Blaine County Commission	Jacob Greenberg	Commissioner
Sun Valley Company	Mark Beelaret	
U. S. Forest Service	Matt Filbert	
Blaine County Planning and Zoning	Tom Bergin	Floodplain Manager

UPDATE PROCESS

The 2014 Blaine County Multi-Jurisdiction All Hazard Mitigation Plan update and revision process included creation of the following steps.

The Hazard Analysis was redone as part of this five year update. The Community Description Section was retained. Other changes in the Plan have been added to meet the requirements set forth in 44 CFR 201.6.



IDENTIFY HAZARDS

Blaine County hazards were identified and their frequency of occurrence evaluated using a number of resources including:

- The 2009 Blaine County All Hazard Mitigation Plan
- Hazard planning documents developed by State, Federal and private agencies
- National Weather Service weather data from the past 50 years
- Data from the United States Geological Survey (USGS) and the Idaho State Geological Survey (ISGS)

To determine frequency of occurrence, the historical analysis of hazardous events was conducted. One of the difficult tasks facing hazard mitigation professionals is the determination of the potential frequency of a natural hazard occurrence. Comparing historical facts against technically determined probability allows one to establish confidence, or not, in published scientific predictions. The process whereby the frequency is determined and then expressed in an expected reoccurrence interval (see below for an illustration), is based on research conducted at the University of South Carolina.

Location	No. of Years	No. of Events	Frequency	Reoccurrence Interval
County	23	17	73.9%	1.35

Example of Reoccurrence Interval

The estimated occurrence of the hazard is a useful element in the hazards assessment so one can distinguish between infrequent hazards, like volcano eruptions, from frequent hazards, such as flooding. This calculation provides a useful indicator of the relative importance of each of the hazards that affect the jurisdictions, individually or collectively. The frequency of occurrence is a straight-forward calculation from the historical data and the length of that record in years. The number of hazard occurrences is divided by the number of years in the record. This yields the probability of the event occurring in any given year. For instance, if hypothetical hazard “A” occurred 17 times in the County over the past 23 years, the probability of occurrence for that hazard in a given year would be 17 / 23 = .739, or 73.9%. The reverse of this equation results in a reoccurrence interval in years. For example, the reoccurrence interval of this hazard is calculated as 23 / 17 = 1.35. Hazard “A” can be expected to occur every 1.35 years. These frequencies are then correlated with magnitude to define the risk of a given hazard.

IDENTIFY VULNERABILITIES

The Committee examined the effects of the raw hazard list on the County by identifying vulnerable populations, infrastructure, critical services, facilities, and environment. Vulnerabilities will be geographically identified using Geographical Information System (GIS) technology and then linked to a GIS data base, describing the vulnerable target, including potential damage and estimates of losses.

HAZARD MAPPING

As described in Steps 1 and 4, hazard maps were extremely important in illustrating hazard and vulnerability locations. In addition, information used to conduct the risk assessment and the loss estimates was linked electronically to the maps using GIS technology. The electronic versions of these maps were provided to the Committee and other reviewing agencies.

RISK ANALYSES

The risk analysis was updated using the information gathered in the steps above. To determine the risk posed by each hazard, several kinds of information are required: 1) the number of historical occurrences, 2) the probability or likelihood of the hazard occurrence, at times without regard to hazard history, 3) vulnerability, expressed as the percentage of people and property that would be affected by the hazard event, 4) spatial extent, the geographical area of the community that might be impacted, and 5) the magnitude or severity of impact based on an assessment in terms of fatalities, injuries, and property/economic losses. Tables illustrating this process are provided below.

1) **Historical Occurrence** – Number of historical occurrences within community.

Rating	Adjective Description	Number of Historical Occurrences (within 50 years)
0	None	• Never occurred
1	Low	• 5 or few occurrences
2	Medium	• 6-9 occurrences
3	High	• More than 10 occurrences

Historical Occurrence Ranking Table

2) **Probability** – Likelihood of the hazard occurrence, sometimes without regard to hazard history.

Rating	Likelihood	Frequency of Occurrence
1	Rare	• Probability of occurrence = one chance in the next 50+ years
2	Low	• Probability of occurrence = at least one chance in the next 25-50 years
3	Medium	• Probability of occurrence = at least one chance in the next 10-25 years
4	High	• Probability of occurrence = at least one chance in the next 1 to 10 years

Probability Ranking Table

3) **Vulnerability** –Percentage of people and property that would be affected by the hazard event.

Rating	Magnitude	Percentage of People and Property Affected
1	Negligible	• Less than 5%
2	Limited	• 5% to 10%
3	Critical	• 10% to 25%
4	Catastrophic	• More than 25%

Vulnerability Ranking Table

4) Spatial Extent –The geographical area of the community that might be impacted.

Rating	Magnitude	Percentage of jurisdiction affected
1	Negligible	• Less than 10%
2	Limited	• 10% to 25%
3	Critical	• 25% to 50%
4	Catastrophic	• More than 50%

Spatial Extent Ranking Table

5) Magnitude (Severity of Impact) – Assessment of severity in terms of fatalities, injuries, and property/economic losses.

Rating	Likelihood	Characteristics
1	Negligible	• Few if any injuries or illness • Minor quality of life lost with little or no property damage • Brief interruption of facilities/services less than 4 hrs
2	Limited	• Minor injuries and illness • Minor or short term property damage that does not threaten structural stability • Loss of essential facilities and services for 4 to 24 hours
3	Critical	• Serious injury and illness • Major/ long term property damage; threatens structural stability • Shutdown of essential facilities and services for 24 to 72 hours
4	Catastrophic	• Multiple deaths • Property destroyed or damaged beyond repair • Complete shutdown of essential facilities/services for 3+ days.

Magnitude Ranking Table

Risk assessment methods included the use of FEMA's HAZUS but, because of limitations associated with this data, Blaine County's own current GIS property valuation data was primarily used to generate loss estimates.

Risk assessment activities also included the mapping of hazard occurrences, at-risk structures, including critical facilities, and repetitive flood loss structures, land use, and populations.

REPETITIVE LOSS

Repetitive Loss designations are used to eliminate or reduce the damage to property and the disruption of life caused by repeated damage, such as flooding, of the same properties. The criteria to determine repetitive loss includes the following:

- Four or more losses of more than $1,000 each in a 5 year period; or
- Two losses within a 10-year period that, in the aggregate, equal or exceed the current value of the insured property.

QUANTIFY RISK

Once a hazard's risk has been evaluated, a picture of the over-all risk severity associated with that hazard emerges. The hazards with the highest total scores were considered the hazards of greatest concern for the County. The table below demonstrates the ranking of

the eight natural hazards, with the priority hazards scoring highest and appearing in the light red rows, medium hazards appearing in light yellow, and the hazards ranking lowest appearing in green.

Natural Hazards Qualitative Risk Assessment EXAMPLE

	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Flood	3	4	3	3	3	16	H
Earthquake	3	3	3	3	3	15	H
Severe Storm	3	4	2	2	3	14	H
Wildland Fire	3	4	2	2	2	13	H
Volcano	1	1	2	2	2	8	M
Landslide	3	3	2	1	2	11	M
Avalanche	3	4	1	1	1	10	M
Drought	1	2	1	1	2	7	L

Example

Risk Ranking Table

Once the numerical ranking was completed, in an effort to remain consistent with the local jurisdictions, as most utilize a High/Medium/Low ranking system, the total score was then converted to a High/Medium/Low method of priority ranking.

The breakdown of ranking is as follows:

- ✓ Low - Generating a total score of < or =7
- ✓ Medium - Generating a score of 8-12
- ✓ High - Generating a score >13

RANK SEVERITY

To assist in prioritizing mitigation activities, the severities of all hazards considered in the Plan are ranked relative to one another using the above plotting scheme. Prioritization is also based on goals and objectives developed and approved by the Blaine County Board of County Commissioners.

DEVELOP MITIGATION STRATEGY

As required by FEMA, this planning effort is centered on community supported hazard reduction goals to be implemented and evaluated based on measurable objectives. Mitigation projects are to be assessed against the established goals and objectives to ensure that the selected projects reduce risk as desired.

CAPABILITIES REVIEW

The ability of the participating jurisdictions to implement mitigation strategies is critical to the success of the Mitigation Program. The following table provides an assessment of each participating jurisdictions' capabilities in relationship to the mitigation strategy. Additionally each jurisdiction has planning processes which are in place to direct land use planning. Those documents were also reviewed and recommendations provided, which will lead to a synergistic approach to mitigation in the communities.

Agency Name (Mission/Function	Programs, Plans, Policies, Regulations, Funding, ,or Practices	Effect of Loss Reduction*			Comments
		Support	Facilitate	Hinder	

*Definitions

- Support: Programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions
- Facilitate: Programs, plans, policies etc. that make implementation actions easier
- Hinder: Programs, plans, policies, etc., that pose obstacles to implementation of mitigation actions

The Blaine County Comprehensive Plan and Land Use Ordinances were reviewed against the list of ranked hazards to determine if there were any restrictions or enabling powers that affect possible hazard mitigation alternatives. Additionally, the community planning tools were reviewed in an effort to identify consistency between planning activities.

DEVELOP MITIGATION ACTIONS

Potential projects to address identified risk have been developed and listed in this Plan. The project descriptions address approximate costs, possible returns on investments, and environmental and socioeconomic benefits.

REVISE PLAN

This Plan meets, and in some instances exceeds, the requirements set forth by FEMA in the FEMA PDM Criteria Crosswalk. Plan drafts were presented in hard and electronic copy and provided to the Committee for review. This Plan includes information on Plan adoption, including a promulgation page for the County, and an agreement to participate page for each incorporated City.

PLAN REVIEW

Plan review occurred at two distinctly different times. The initial Plan review was conducted by the Update Committee during development. Once the Plan was completed, it was submitted along with the completed FEMA PDM Criteria Cross Walk to the Idaho Bureau of Homeland Security's Hazard Mitigation Officer, and then to FEMA Region

10's Hazard Mitigation Officer for review. The Blaine County Board of County Commissioners also reviewed the Plan in a parallel time frame.

PUBLIC AND STAKEHOLDER INVOLVEMENT

PUBLIC PARTICIPATION

Public involvement in the All Hazard Mitigation Process has three distinct objectives: documenting risk perception, development of risk reduction requirements, and solicitation of support for mitigation actions.

The Blaine County LEPC is in itself the best form of Public Participation. All LEPC Meetings are open to the Public. They are held at the same time and place each month, the second Thursday at the Elk Horn Fire Station. The local media is invited to attend and is often present. Comments on the Plan as raised in the LEPC meetings by citizens who participated with addressed by the Committee and as appropriate included in the Plan. Meeting minutes and agendas, described above and included in Attachment 1 are also posted on the Blaine County LEPC website for public review. (See http://www.blaineemergency.org/)

The Blaine County Multi-Jurisdiction All Hazard Mitigation Plan was posted on the Blaine County's LEPC Website for Public Review. The Public was given an opportunity to comment on the Plan via emails to LECP Chairman email comments received were only from Elected Officials, Jurisdiction staff, and LEPC Committee Members. All Comments were addressed by the Committee during the review process.

PUBLIC MEETINGS

Each of the NFIP-participating communities were individually interviewed and invited to participate in the Discovery meetings. Meetings were held to facilitate discussion and to collect data for analysis of study needs, mitigation project needs, desired compliance support, and local flood risk awareness efforts. Attendees, including all affected communities and selected other stakeholders, cooperatively identified possible solutions for the Areas and Points of Concern shown on the Discovery Meeting Map. Comments were received by the meeting facilitators and provided as content in the Risk Map mitigation actions.

Several potential desired mitigation projects were identified by the communities during the Discovery Meeting, including:

- *Big Wood River Levee* – Non-Regulatory Risk Map Products desired for the Big Wood River split location to illustrate several different flow scenarios for the main channel and the overflow channel

- *Bellevue Canal* – bank stabilization at a meander on the Big Wood River to protect the canal

- *Hwy 75 Bridge* – slow water flow and prevent the Big Wood River's flow split to Cottonwood Slough, which increases flooding on Little Wood River

- *Eagle Creek*– undersized culvert increases flood hazard on Eagle Creek at Highway 75

- *Trail Creek* - Sun Valley interested in a dam breach analysis for the Trail Creek Dam

- *Deer Creek Bridge* – Continued bank stabilization where eroded during 2006 flood

- *Indian Creek* - diverting Indian Creek from its confluence with the Hiawatha Canal directly to the Big Wood River

- *Quigley Creek Culverts* - clean the culverts and channel, restoring dilapidated banks, and installing wing walls on culverts to improve flood flow thru this channel

- *Mt. Della Avalanche* - avalanche caused flooding in the Big Wood River; mitigation study may be appropriate

JURISDICTION ELECTED AND APPOINTED OFFICIAL BRIEFINGS

Briefings to each of the participating jurisdiction elected and appointed officials were made via electronic media. A video was developed for each jurisdiction which was distributed to the jurisdiction via the LEPC point of contact. Each of the jurisdictions viewed the videos. A list of viewers along with the presentation for each jurisdiction is provided in Attachment 1. Each jurisdiction was asked to provide the link for their specific jurisdictional briefing to the public during the month of December 2014.

In addition to participation in the LEPC Committee each of the participating jurisdictions points of contact facilitated review of the individual city sections of the Plan including but not limited to, community vulnerability review, risk ranking, project definition, project status, and project prioritization. The input from each jurisdiction was included as requested in the appropriate sections of the Plan.

It is important to note that each of the participating jurisdictions began the review process in February 2014 in anticipation of a PDM Planning Grant Award. Each jurisdiction provided a status on existing mitigation projects, provided input on hazardous events which occurred over the past five years and identified points of contact with the LEPC which would participate on the jurisdictions behave in the update process. The participation of the Blaine County LEPC and the jurisdictions Points of Contact have been critical to formation of the product that has been presented.

Presentation Slides from the videos are located in attachment 1 along with the sign in sheets. The following individuals viewed the videos.

City of Carey – December 15, 2014 Video Briefing

The City of Carey viewed the video in a joint meeting with the Staff and City Council. Mayor Patterson and Brandi Hennefer facilitated the meeting. The group agreed upon the risk ranking and reviewed the projects proposed. The group removed two projects and combined two others prior to ranking them using a H, M, L scoring.

Agency	Representative	Position
City of Carey	Brandi Hennefer	Planning and Zoning Administrator
City of Carey	Joe Dilworth	Building Inspector

Agency	Representative	Position
City of Carey	Tess Cenomuse	City Clerk
City of Carey/Carey Rural Fire Protection District	Richard Kimball	Public Works/Fire Cheif
City of Carey	Ruben Rivera	City Council
City of Carey	Randy Patterson	Mayor
City of Carey	? Glen	City Council
City of Carey	George Voss	City Council

City of Bellevue– December 15, 2014 Video Briefing

The City of Bellevue viewed the video provided individually and then provided comments to Craig Eccles the City's Administrator. The City has been very involved in ongoing mitigation actions and as such had very little to change in their input to the Plan but they did concur on the risk ranking and returned a prioritized list of their projects based on the H, M, L scoring method.

Agency	Representative	Position
City of Bellevue	Greg Beaver	Fire Chief
City of Bellevue	Chris Koch	Mayor
City of Bellevue	Gregory Baker	Deputy
City of Bellevue	Janet Duffy	City Council
City Of Bellevue	Lisa Phillips	City Council
City of Bellevue	Craig Eccles	Administrator

City of Hailey – December 15, 2014 Video Briefing

The City of Hailey's Staff viewed the video individually and then worked together to request changes to the risk ranking. Craig Aberbach was the primary point of contact for the City. The City raised the ranking for structure fires and lowered the risk ranking for river flooding. Using the STAPLEE criteria the City Floodplain Manager developed additional projects for areas in the designated floodplain. The Staff then revised projects and provided a priority listing of H, M, and L for each project. The staff also provided additional input on new city owned structures which been constructed since the last revision of the Plan.

Agency	Representative	Position
City of Hailey	Kristine Hilt	CFM

Agency	Representative	Position
City of Hailey	Mariel Platt	PW Director
City of Hailey	Heather Dawson	Administration
City of Hailey	Craig Aberbach	Fire Chief/Emergency Director

City of Ketchum – December 15, 2014 Video Briefing

The City of Ketchum viewed the video together because of internet firewall issues. The meeting was led by Mike Elle the City of Ketchum Fire Chief and Point of Contact for the Planning effort. The group concurred with the risk ranking as presented. Additional flood mitigation projects were added under the direction of Rebecca Bundy the Floodplain Administrator. The projects were ranked using a H, M, and L scoring method.

Agency	Representative	Position
City Council	Nina Jonas	Mayor
City Council	Baird Gourlay	Councilperson
City Council	Michael David	Councilperson
City Council	Jim Slanetz	Councilperson
City Council	Anne Corrock	Councilperson
City Administration	Suzanne Frick	City Administrator
Fire Department	Mike Elle	Fire Chief
Planning and Building Department	Rebecca Bundy	Senior Planner
Public Works	Robyn Mattison	Public Works Director
Street Department	Brian Christiansen	Street Superintendent

City of Sun Valley – December 15, 2014 Video Briefing

Chief Walt Flemling, the City of Sun Valley's Police Chief led the Sun Valleys review and input to the Blaine County Multi-Jurisdiction All Hazard Mitigation Plan. The City staff and elected officials viewed the video independently and then provided input to Chief Flemling on their concurrence of the risk ranking and then scoring of the Mitigation Projects.

It should be noted that the City completed 10 mitigation projects over the past five years and applied for a Hazard Mitigation Gran to complete two others. The City added 12 new projects during this review cycle.

Agency	Representative	Position
City of Sun Valley	Walt Flemling	Police Cheif
City of Sun Valley	Alisa Weber	Clerk
City of Sun Valley	Michelle Griffith	City Council
City of Sun Valley	Peter Hendricks	City Council
City of Sun Valley	Mark Hofman	CD Director
City of Sun Valley	Abby Rivin	Planner
City of Sun Valley	Keith Saks	City Council
City of Sun Valley	Ray Franco	Fire Chief
City of Sun Valley	Bill Whiteside	Street Superintendent
City of Sun Valley	Susan Robertson	City Administrator
City of Sun Valley	Angela Walls	Treasurer
City of Sun Valley	Dewayne Briscoe	Mayor

STAKEHOLDER PARTICIPATION

The following non-local stakeholders participated in this revision.

- South Central Public Health District
- Idaho Bureau of Homeland Security
- Idaho State Police
- Idaho Transportation Department
- National Weather Service
- USDA Sawtooth National Forest
- USDA Sawtooth National Recreation Area
- DOI Bureau of Land Management
- US Army Corp of Engineers
- Federal Emergency Management Agency
- Salvation Army
- American Red Cross
- Sun Valley Company

Additionally all of the neighboring County Emergency or Disaster Service Coordinators were notified and invited to participate. Note that the Blaine County LEPC Secretary also serves as the Lincoln County Coordinator of Emergency Services. A letter inviting participation from the neighboring Counties is presented below.

Blaine County, Idaho
Local Emergency Planning Committee
Working together for a safer community

www.BlaineEmergency.org

August 18, 2014

Bingham County Emergency Management Services
Mr. R. Scott Reese

Butte County Emergency Services
Mr. David Mull

Camas County Emergency Services
Sheriff David Sanders

Cassia County Emergency Services
Sheriff Jay Heward

Custer County Emergency Services

Elmore County Disaster Services
Ms. Carol Killian

Lincoln County Emergency Services
Ms. Stacy McLaughlin

Minidoka County Emergency Services
Ms. Kim Vega

Power County Emergency Services
Ms. Di Jones

Subject: Update to the Blaine County Multi-Jurisdiction All Hazard Mitigation Plan

Ladies and Gentlemen,

Please be advised that we updating the Blaine County Multi-Jurisdiction All Hazard Mitigation Plan. If you would like to participate in the update or view a copy of the Plan please notify me.

PARTICIPATING PUBLIC SAFETY AGENCIES

Fire Protection

The communities in Blaine County are served by a combination of paid and volunteer fire departments. Three (3) rural fire districts include the Ketchum Rural, Wood River Rural and the Carey area. These areas are serviced by equipment from Ketchum, Bellevue, and Carey respectively[3].

The City of Ketchum Fire Department, North County Ambulance District, and the Ketchum Rural Fire District are presently consolidated by contract to provide fire protection and emergency medical services to the North County. The area protected within the Ketchum Rural Fire Protection District consists mainly of high value residential properties in a ***rural*** environment (less than 400 persons per square mile). There are several grand fathered non-conforming light industrial uses and a conforming hospital use. The area protected within the City of Ketchum consists of commercial and residential properties in a ***suburban*** environment (400-2000 persons per square mile) with a wildland urban interface and wildland urban intermix as defined in the National Fire Protection Association (NFPA) Standard 1143.

The Ketchum Fire Department was established in 1883. Our fire department is a combination career and paid on- call department providing fire protection, technical rescue, and emergency medical services throughout northern Blaine County. The department has 34 volunteers and 13 career personnel. Station 1 is located at Ketchum City Hall, 480 East Avenue North. Consolidation of the Ketchum Rural Fire District and the City of Ketchum Fire Department was implemented many years ago through a cooperative agreement. There are two rural fire stations. Greenhorn Gulch Station 2 is located five miles south of Ketchum, and Griffin Butte Station 3 is located 2.5 miles north of Ketchum.

The Sun Valley Fire Department provides fire and medical response to the City of Sun Valley and, when called, participates in mutual aid calls with other departments in the Wood River Valley. It is a department with full-time and seasonal employees, as well as paid-per-call firefighters. Currently, there are over twenty paid-per-call firefighters with the Fire Department.

The department operates out of two fire stations. The Elkhorn Station has offices, a conference room, vehicle bays, and equipment storage. Two vehicular storage bays are at the City Hall site.

In recent years, the Fire Department has taken an integral role in wildland firefighting. Annually the City enters into cooperative agreements with USDA – Forest Service, the BLM, and Idaho Department of Lands to assist with wildland fire suppression in the Sawtooth National Forest.[4]

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[3] Blaine County Comprehensive Plan, 1994
[4] http://www.sunvalley.govoffice.com/index.asp?SEC=05206992-7385-4603-8A24-CF3E28ACEBD5&Type=B_BASIC

The Hailey Fire & Rescue Department provides the most comprehensive fire protection and rescue services possible, while maintaining a reasonable cost to its taxpayers. The Hailey Fire & Rescue Department is a combination fire department. Currently 3 full-time firefighter/EMTs and 1 part time Administrative Assistant which provide administrative support to approximately 25 paid on call members. The paid on call members of the department are paid to attend training sessions and when responding to emergency scenes.

The Hailey Fire Department responds to approximately 500 emergency calls per year. Of these calls, about 60% are emergency medical calls. The remainder of the calls is a combination of structure fires, wildland fires, auto aid, mutual aid assistance, vehicle fires, rescue situations, and false alarms.

The HFD administration comprises of a full time fire chief, deputy chief/fire marshal and firefighter/inspector. The department also has a part time administrative assistant. The city currently has one fire station located at 617 S Third Ave.

The Fire Department is divided into two divisions; Administrative and Operations. The full time personnel conduct virtually all of the administrative tasks such as plan reviews for new construction, fire inspections, fire investigations, and other routine administrative functions. Both the full time personnel and the paid on call firefighters are part of the operations division of the department. The operations division is responsible for medical response, fire suppression, maintenance, communications, support services, etc.[5]

The Wood River Fire Protection District, which does business as Wood River Fire and Rescue, is located in south central Idaho and protects a fluctuating population of approximately 10,000. The district is governed by a Board of Fire Commissioners. In 1974 the Fire District was established as a political subdivision of the State of Idaho. The District currently employs ten full time responders and 37 paid-call employees with a budget of $1,707,002.83 for the 2009/2010 fiscal year.

The District provides fire and EMS response from three facilities. This coverage encompasses approximately 150 square miles for fire protection and 1,500 square miles for Emergency Medical Services. The District employs a full time fire chief, assistant fire chief, office manager, three captains, five lieutenants, and one firefighter/senior engineer. All of our full time personnel are Idaho certified Advanced EMT's, or Idaho certified EMT- Paramedics. Major equipment includes a 75' ladder truck, two Class A engines, one wildland engine, two Class A engine/tenders, one heavy rescue, and three ambulances. On September 1, 1997, the District received an ISO fire rating of four and eight. Structures within five miles of a station and 1000 feet of a recognized water supply receive the lowest insurance rating of 'four'. The primary focus of the District is public/safety education, fire prevention, fire inspection, fire suppression, emergency medical services, non-emergency transfers, and technical rescue.

The District has several automatic aid and mutual aid agreements with surrounding jurisdictions including Hailey, Bellevue, Ketchum, Sun Valley, and Carey. We also work

[5] http://haileycityhall.org/fire/index.asp

closely with both the Bureau of Land Management (BLM) and The U.S. Forest Service on both suppression and prevention issues.[6]

The Bellevue Fire District protects the City of Bellevue under the Bellevue Department of Public Safety. The area protected within the City consists of commercial and residential properties in a suburban environment (400-2000 people per square mile) with a wildland urban interface and wildland urban intermix as defined in National Fire Protection Association Standard 1143. The personnel of the department consists of approximately 11 volunteer personnel operating out of a central station. The department participates in the County Mutual Aid Plan and has an auto-aid agreement with the Wood River Fire Prevention District, the Carey Rural Fire Protection District, and the City of Hailey fire agencies. The location of the Headquarters Station is on Main Street in the City[7].

The Carey Fire District protects the City of Carey, Gannett, Picabo, and the rural areas of the fire district with fire stations in Carey, Gannett, and Picabo. The area protected within the City consists of commercial and residential properties in a *rural* environment (less than 400 persons per square mile) with a Wildland/Urban Interface and Wildland/Urban Intermix as defined in the National Fire Protection Association Standard 1143. The area protected within the rural fire district consists mainly of residential and agricultural properties in a *rural* environment (less than 400 persons per square mile). There are a few light industrial uses and mercantile uses. Much of the land protected involves or abuts the world-class fishing and avian habitat of the Silver Creek Preserve. The personnel of the department/district consist of 10-15 personnel operating out of three stations. All members are volunteers. The department also provides Emergency Medical Services Quick Response augmented by the transport service of the Wood River Fire District at the paramedic level. The location of the Headquarters Station is in the City of Carey. Station 2 is located in Picabo and a third station is located in Gannett. (A recent fire destroyed the Gannett Fire Station and all its equipment)[8].

The BLM and the Forest Service offer additional backup to local fire protection agencies. From June 1 to September 30 they provide initial attack and quick response to wildfires and search and rescue. The USFS Type 2 Helicopter is hangered in Hailey and is available to all departments on an emergency basis. The BLM helicopter is based in Shoshone[9].

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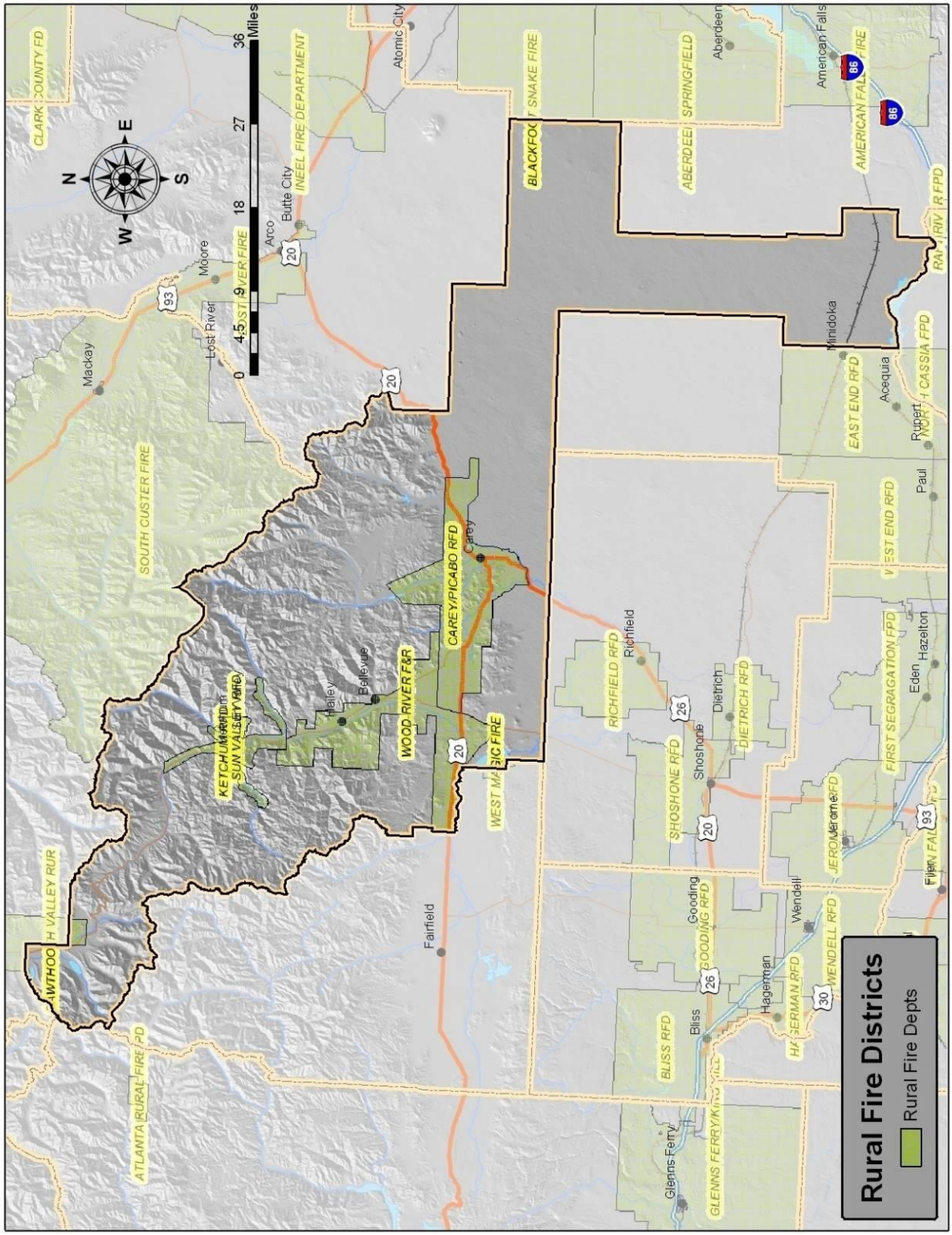
[6] http://www.wrfr.com/About_WRFR.php
[7] Blaine County Fire Mitigation Plan, 2004
[8] Blaine County Fire Mitigation Plan, 2004
[9] Blaine County Comprehensive Plan, 1994



Blaine County Rural Fire Districts Map

Public Safety

The Blaine County Sheriff is the chief law enforcement officer in the County.

Since July 1, 2009 the Blaine County Sheriff's Office has contracted with the City of Ketchum to provide law enforcement services within its city limits. The Police Chief and his staff are on special assignment to the Ketchum Police Department under the command of the Sheriff's Office.

Between the two branches of patrol (BCSO & KPD) there are twenty-one patrol deputies on the road with six additional deputies detailed out to special assignments within the department, such as School Resource Officer, Civil Processing, Animal Control, Community Service Officers, and the Narcotics Enforcement Team.

The role of the Patrol Division within the Blaine County Sheriff's Office is diverse. The primary duty of Patrol Officers is to safeguard the lives and property of the citizens in Blaine County by way of enforcing the laws of the State of Idaho and the County of Blaine. Due to the diversity of the region, this duty is accomplished in a variety of ways. While BCSO traffic patrol is the most commonly recognized activity by the general public, it is in fact only a single aspect of a "routine" patrol shift. Blaine County Patrol is in actuality a multifaceted on-going group of patrol activities.

Routine Patrol activities generally entail responding to a variety of calls which may include crimes in progress, suicides, mentally disturbed individuals, domestic violence situations, missing persons, lost children, other agency requests for back-up or assistance, traffic accidents, special traffic enforcement detail, barking dogs, or other noise complaints. On a medical assistance call, deputies may be required to perform first aid until medical assistance personnel can arrive on scene. Routine patrol is a simple name for an often complex series of calls and responses to situations.

Another routine duty of the Patrol Division is Forest Patrol. Forest Patrol activities are conducted in coordination with the U.S. Federal Forest Service and Bureau of Land Management. Forest Patrol entails providing routine patrol activities in summer home or cabin areas, heavy tourist areas, campgrounds, and roadways within the Blaine County jurisdiction of the Sawtooth National Forest (SNRA) and Bureau of Land Management (BLM). Deputies working in a Forest Patrol capacity are also often called upon to respond to search and rescue situations and provide assistance to the Blaine County Search and Rescue Team. Additionally, Forest Patrol includes answering questions about the area, giving directions, or providing assistance to the citizens and visitors of Blaine County.

In addition to routine patrol, deputies also perform specialized duties such as Marine and Snowmobile Patrol. Blaine County has five (5) lakes, as well as numerous flowing waterways which all receive

heavy recreational use in season. Blaine County Marine or Boat Patrol performs various activities from safety inspections to water rescue operations to ensure the safety of citizens on the water. BCSO currently utilizes a fully outfitted Alumar Patrol Watercraft, provided by the State of Idaho Department of Parks and Recreation, with a secondary Master Craft boat utilized for some of the smaller lakes or for additional patrol during heavy use periods. Prior to receiving certification as a Marine Patrol Officer, deputies receive eighty (80) hours of instruction in Idaho Boating Laws, as well as a yearly in-service course in the Boat Patrol Function. Deputies generally work around their normal shift schedules to man the boats during the boating season with manpower augmentation of seasonal personnel assigned as full time Boat Patrol Officers.

In 2008 Blaine County opened a new 36,000 square foot modern detention facility. The state of the art detention center has a total of 90 beds including 66 general population beds divided into 4 jail pods providing minimum, medium, and maximum security classifications. The general population pods also contain 4 beds in special needs cells with negative air flow to prevent the spread of infectious disease. An additional 20 inmates can be housed in male and female work release dorms and up to 4 juveniles can be held up to 48 hours (excluding weekends and holidays) in segregated holding cells. The Blaine County Detention Facility offers modern new technology to assist inmates and visitors, and ensure safety and security for all.

The Civil Division serves legal and judicial process papers within Blaine County, including, but not limited to, court summons and complaints, small claims, garnishments, court issued writs, and subpoenas. The division additionally collects delinquent property taxes, levies on property, and conducts court ordered sheriff's sales. Civil process service is performed in strict compliance with Idaho Code to ensure the accuracy of the service of legal documents, record keeping and returns to the court as mandated by law.

The Blaine County Sheriff Records Division is responsible for processing and managing a vast number of records and reports for the department. In addition to performing day to day record keeping functions, the Records Division also administers a multi-agency record management system that benefits all Blaine County law enforcement.

The Blaine County Sheriff's School Resource Officer Program is a cooperative effort with the Blaine County School District to protect the safety and security of public school students. The emphasis of this educational program is to recognize and resist pressures that may influence young people to experiment with drugs, gangs, or violence. The program provides a deputy to 6 county schools: Hemingway Elementary, Hailey Elementary, Bellevue Elementary, the Middle School, and the Carey School.

The Police Activities League is a crime prevention program that relies on educational, athletic, and other recreational activities to promote trust and understanding between law enforcement and the youth in our community.

Blaine County Search and Rescue (BCSAR) is an all-volunteer organization that operates under the authority of the Sheriff of Blaine County. Per Idaho Statute, the Sheriff is responsible for all search and rescue operations within the County. BCSAR performs multiple types of operations in the performance of its duties. The most common operation conducted is a search for a missing person. Other types of operations include:

- Medical Assistance and Extraction of People Injured in the Backcountry
- Body Recovery of Fatal Accident Victims
- Search and/or Recovery of Avalanche Victims
- Assist in Swift River Rescues
- Assist in Criminal Investigations
- Assist Sheriff's Office during Natural Disasters

Additionally, Blaine County Search and Rescue provides logistic and support services for other rescue groups, local fire departments, Sun Valley Ski Patrol, heli-ski guides and the Rescue Dive Team.[10]

HPD offers service 24 hours per day, 7 days per week to the cities of Hailey and Bellevue with a School Resource Officer at Wood River High School. The department consists of:

- Chief, Assistant Chief, 2 Lieutenants, 1 Sergeant, 1 Marshall (Bellevue), 6 Officers (Hailey), 3 Officers (Bellevue), 1 School Officer, 1 Admin Assistant.

The Sun Valley Police Department has 10 full-time officers, all of whom are dedicated to providing a professional service to a very diverse population of residents and tourists. The population served can increase by 10,000 in any given week, along with providing security protection for many national and international dignitary visitors. With over two billion dollars in property values to protect and to ensure visitors have a safe experience while visiting Sun Valley, the City of Sun Valley Police Department is truly a unique police.

Disaster Services

Idaho State Law designates the Sheriff responsible for all disaster response including natural, man-made, flooding, forest fires, and earthquakes. Over the past several years, the Blaine County Sheriff's Office has developed the County Disaster Services into more than just providing a response in case of emergency. Under the directorship of the County Coordinator, it has become an active program which includes the coordination of hundreds of thousands of dollars, the cooperation of all area emergency services, and an active exercise of the County Emergency Operations Plan. Disaster Services is responsible for responding to floods, fires, hazardous materials incidents, mudslides and extreme snowfalls. They work to assess the situation, organize the response, and coordinate the efforts of multiple agencies to minimize damage and danger to life and property, and quickly bring a return to normalcy following the most critical disasters. Disaster Services supports the lead agency during a crisis and is the primary point of contact for all grant funding. The Disaster Services program is designed to be pro-active; while many critical incidents cannot be foreseen, members stay vigilant to situations which may result in emergencies, and take steps to prevent or minimize the impact before the emergency arises.

[10] http://www.blainesheriff.com/patrol.asp

Health Care

St. Luke's Wood River Medical Center serves the health care needs of people living in the greater Blaine County, Idaho area. Major services include 24-hour emergency services, orthopedic and general surgery, diagnostic imaging including MRI, CT and digital mammography, maternal and childbirth services, and outpatient infusion services including chemotherapy. St. Luke's physicians work closely with the medical center and include a network of over 30 providers including dermatology, family medicine, internal medicine, neurology, ob/gyn, pediatrics, and urology.

EMS and Rescue

Wood River Fire & Rescue is a rural fire department which contracts with the Blaine County Ambulance District to provide pre-hospital emergency response to all of southern Blaine County south of the East Fork Bridge. WRFR is also responsible for the care and transport of half of the patients being transferred to other facilities outside of Blaine County for example to St Luke's and St Al's hospitals in Boise. Typically, more than 90% of our emergency 'calls for service' are emergency medical calls.

The north half of Blaine County is serviced in a similar fashion by the Ketchum Fire Department. [11]

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[11] http://www.wrfr.com/EMS_&_Rescue.php

PLAN MAINTENANCE

The Blaine County AHMP maintenance process includes a schedule for annually monitoring and evaluating the programmatic outcomes called for in the Plan, and for producing a Plan revision every five years.

FORMAL REVIEW PROCESS

The Plan will be reviewed on an annual basis by the Coordinator, and reviewed and revised every five years by the committee to determine the effectiveness of programs and to reflect changes that may affect mitigation priorities. The Disaster Services Coordinator, or designee, will be responsible for contacting the Mitigation Committee members and organizing the review. Committee members will be responsible for monitoring and evaluating the progress of the mitigation strategies in the Plan. The Committee will review the goals and action items to determine their relevance to changing situations in the County as well as changes in Federal policy, and to insure that they address current and expected conditions. The Committee will also review the risk assessment portion of the Plan to determine if this information should be updated or modified, given any new available data. The organizations responsible for the various action items will report on the status of the projects, the success of various implementation processes, difficulties encountered, success of coordination efforts, and which strategies should be revised or removed.

The Coordinator, or designee, will be responsible to insure the update of the Plan. The Coordinator will also notify all holders of the Blaine County AHMP and affected stakeholders when changes have been made. Every five years the updated plan will be submitted to the State of Idaho Bureau of Homeland Security's Mitigation Program and the Federal Emergency Management Agency for review.

CONTINUED PUBLIC INVOLVEMENT

The Disaster Services Coordinator is dedicated to the concept of public involvement in the planning process, including the review and updating of the Plan both annually and on a 5 year cycle. Due to security concerns only an Executive Summary of the approved Plan will be placed on the LEPC Website. Members of the Public who would like to review the complete Plan may request a copy from the appropriate County and City department. The public will be provided with the opportunity to provide input into Plan revisions and updates at least every five years through participation in the Blaine County LEPC. To this end, joint county/city public meetings may be held when deemed necessary by the Coordinator, providing a forum where the public can express concerns, opinions, or new alternatives. These meetings, conducted under Idaho open meeting law, will be documented and considered by the Committee when updating the Plan. The Board of County Commissioners and City Council will be responsible for using County/City resources to publicize public meetings and to maintain public involvement.

SECTION 2 RISK ASSESSMENT

Hazards that pose a threat to human life, health, and well-being are myriad and no attempt is made here to compile an exhaustive list. Those that are addressed in disaster planning are generally categorized as "natural" or "technological" (sometimes "manmade"). The FEMA website[12] contains a thorough discussion of hazards in the section entitled "FEMA's Multi-Hazard Identification and Risk Assessment (MHIRA)"[13]. Some hazards are a threat to all geographic areas while others (e.g. Tsunami in coastal regions) are more limited in their extent. Studies were conducted to determine which hazards are of concern in Blaine County. Hazards that have been identified as significant in this County and that will be considered in this plan are:

<u>Natural Hazards</u>

- Weather:
  - Drought
  - Severe Weather
    - Extreme Heat
    - Lightning
    - Hail
    - Tornado
    - Straight Line Wind
  - Severe Winter Weather
    - Extreme Cold
    - Severe Winter Storm
- Flooding:
  - Flash Flooding
  - River Flooding
  - Dam Failure
- Geologic:
  - Earthquake
  - Landslide/Mudslide
  - Snow Avalanche
- Other:
  - Wildfire
  - Biological
    - Vector Borne Disease
      - Bird Flu
      - West Nile
    - Mad Cow Disease
    - Hoof and Mouth Disease
    - Communicable Disease
      - SRS
      - Spanish Flu
      - Swine Flu
      - Pertussis
      - Ebola

[12] http://www.fema.gov/index.shtm
[13] http://www.fema.gov/plan/prevent/fhm/ft_mhira.shtm

Technological (Manmade) Hazards
- Structural Fire
- Nuclear Event
- Hazardous Material Event
- Riot/Demonstration/Civil Disorder
- Terrorism

WEATHER HAZARDS

The impact of weather hazards may be widespread (drought) or more localized (lightning), but all have the potential to be severe and directly life-threatening. Historical weather data is generally available in good detail over long time periods, allowing for reasonably accurate risk assessment for planning purposes.

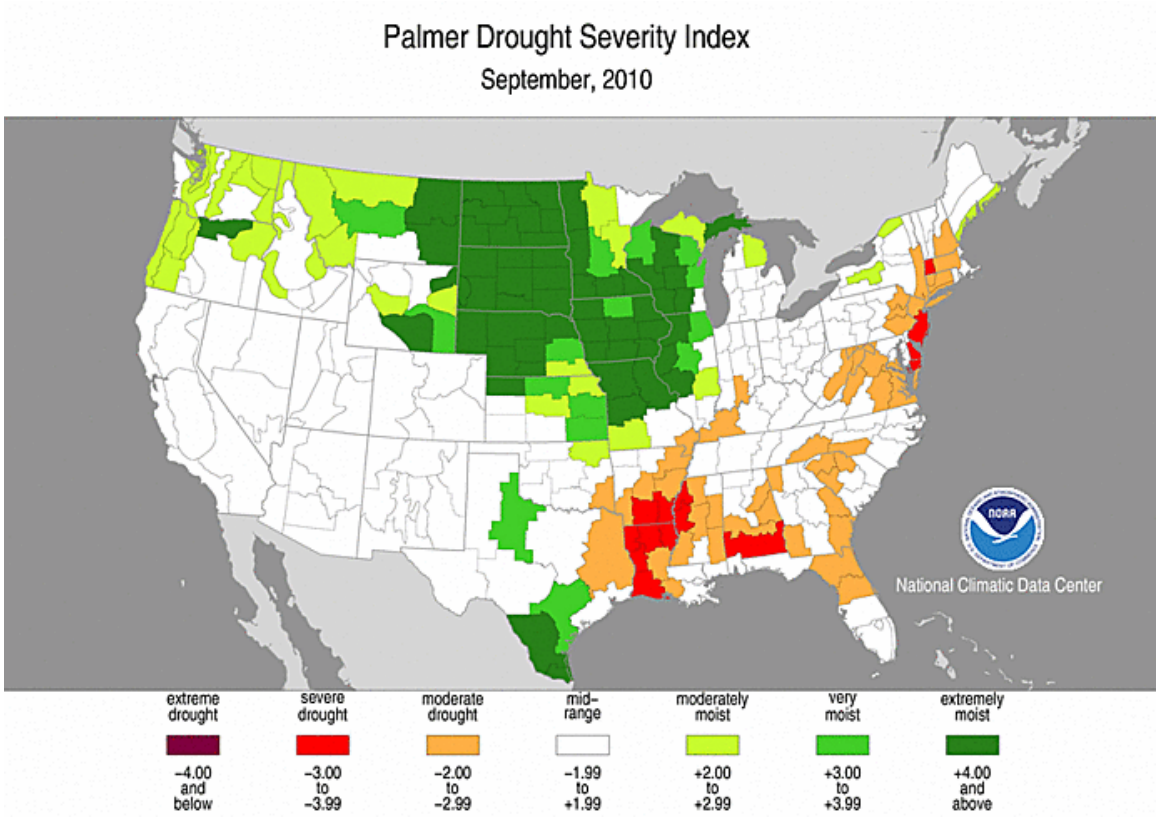
Much of the data for this section has been gathered from two sources, the SHELDUS data base provided through the National Climatic Data Center, Asheville, NC, "Storm Data and Unusual Weather Phenomena". Every natural hazard event with more than $50,000 in losses (1990-1995) and every fatal event were manually entered into the database. Between 1960 and1989 and since 1995 all loss-causing events (no thresholding) were manually entered into the database, [Most Current Data Available 3/30/2010], and the NOAA National Climate Data Center, Idaho, Blaine County Data/ [Most Current Data Available 11/2014].

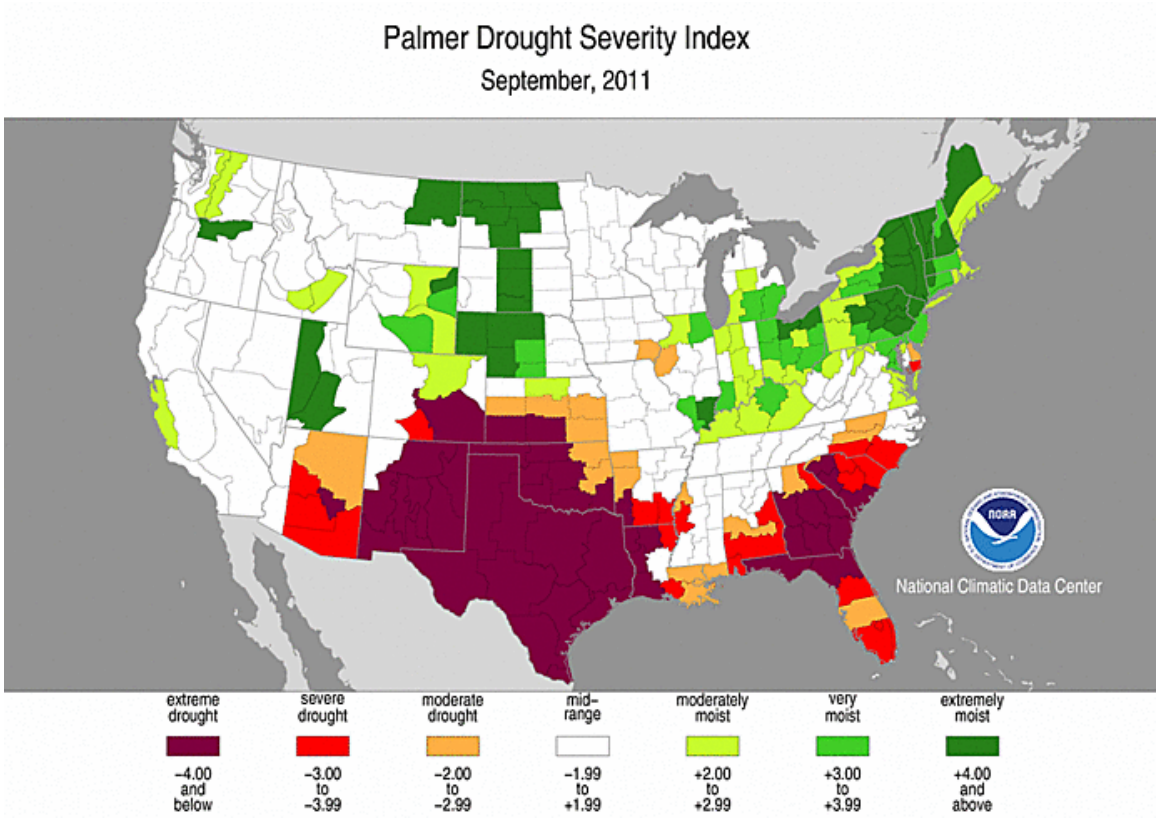
DROUGHT

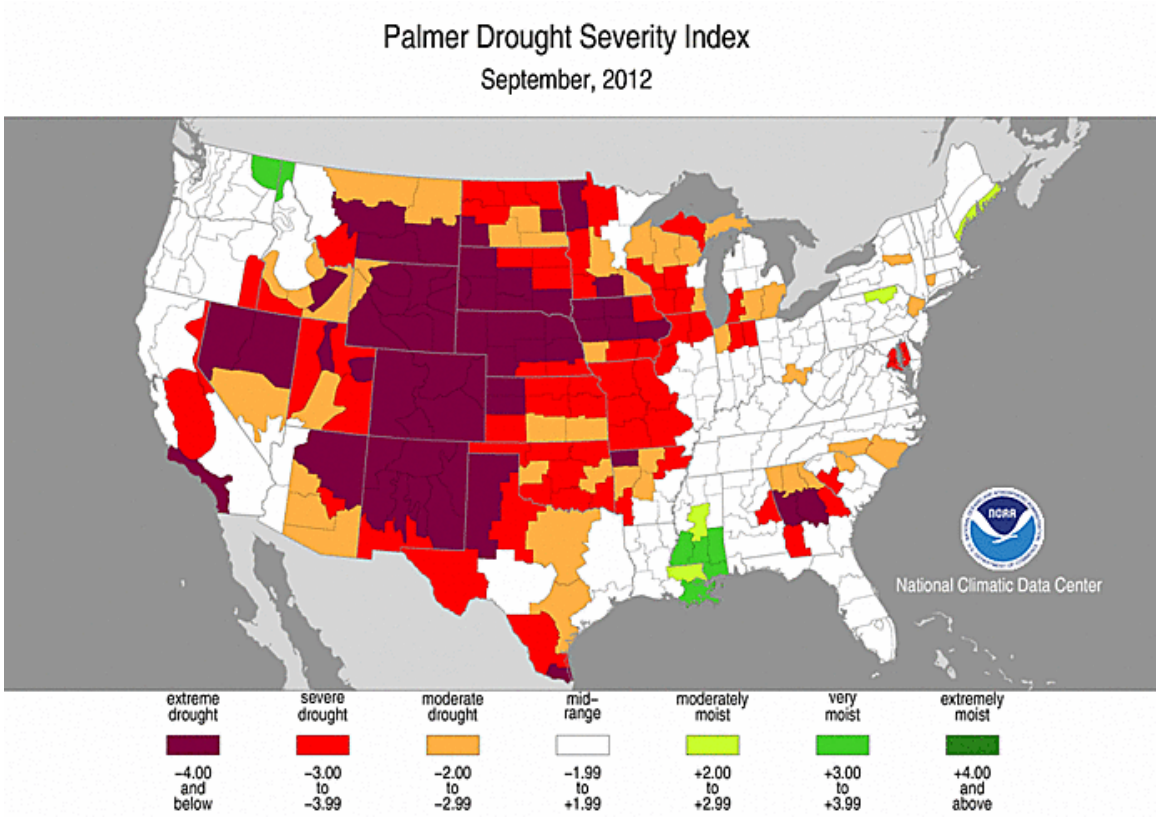
Description

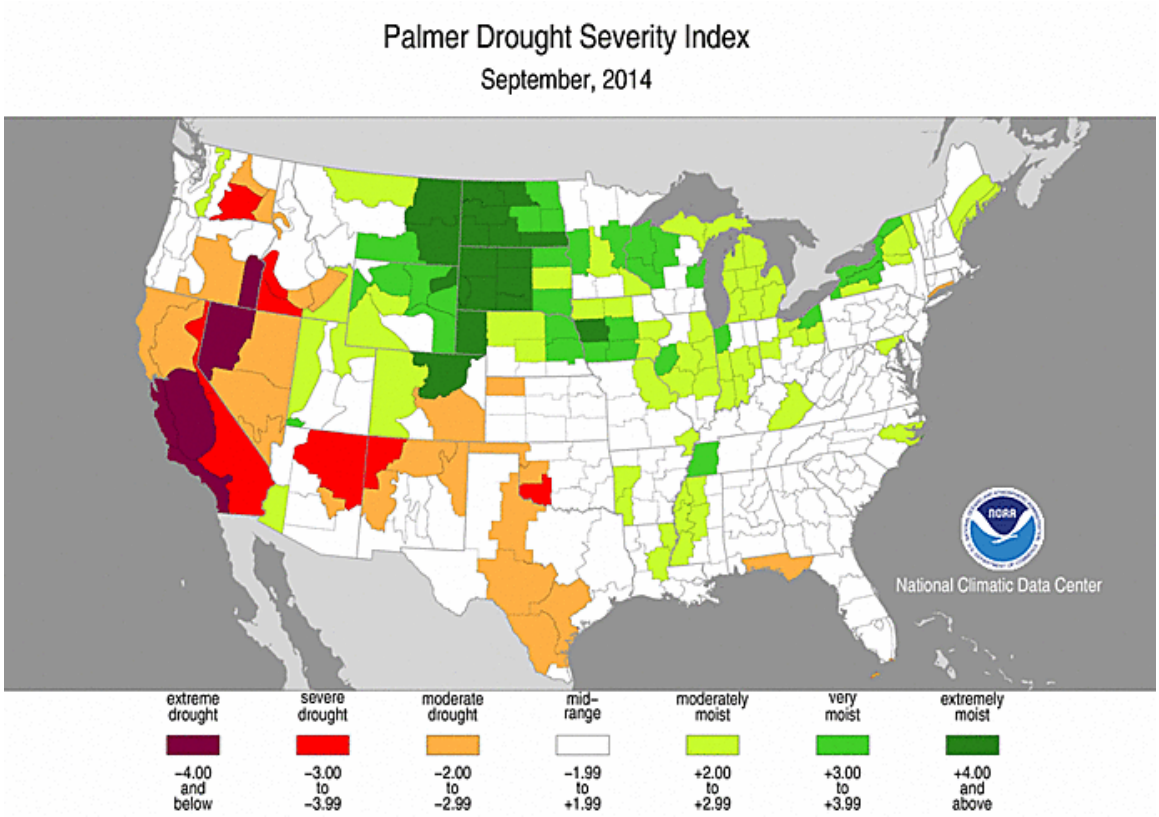
Drought is an expected phase in the climactic cycle of almost any geographical region. Certainly that is the case in the State of Idaho. Objective, quantitative definitions for drought exist, but most authorities agree that, because of the many factors contributing to it and because its onset and relief are slow and indistinct, none is entirely satisfactory. According to the National Drought Mitigation Center, drought “originates from a deficiency of precipitation over an extended period of time, usually a season or more. This deficiency results in a water shortage for some activity, group, or environmental sector.” What is clear is that a condition perceived as “drought” in a given location is the result of a significant decrease in water supply relative to what is “normal” in that area.

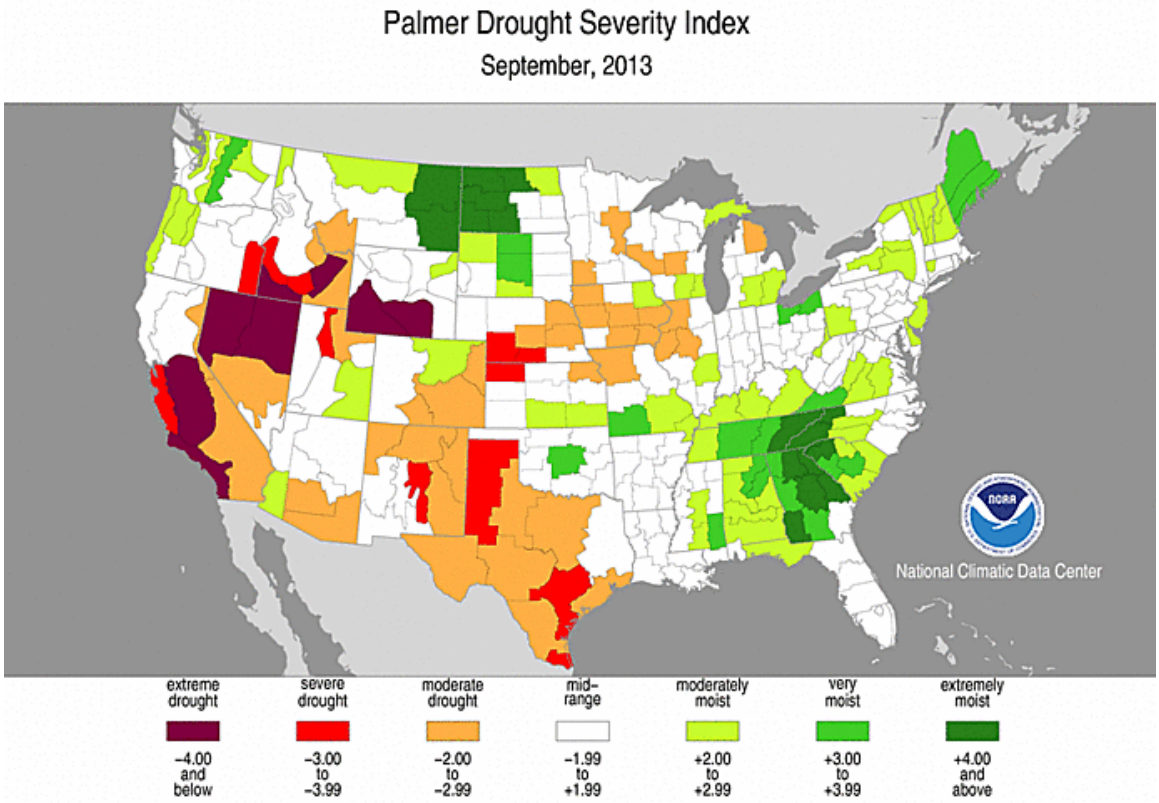
It should be noted that water supply is not only controlled by precipitation (amount, frequency, and intensity), but also by other factors including evaporation (which is increased by higher than normal heat and winds), transpiration, and human use. According to the NOAA National Climactic Data Center, parts of the State of Idaho experienced moderate to extreme drought conditions from the years 2010 through 2014 (see annual maps). Drought Emergency Declarations were issued for various counties by the Idaho Department of Water Resources in the years 2010-2014. Idaho’s only Federal Drought Emergency Declaration was issued in 1977. Blaine County declared Drought Emergencies in 2010, 2012, 2013, and 2014.


Palmer Drought Severity Index
September, 2010
National Climatic Data Center
extreme drought
severe drought
moderate drought
mid-range
moderately moist
very moist
extremely moist
-4.00 and below
-3.00 to -3.99
-2.00 to -2.99
-1.99 to +1.99
+2.00 to +2.99
+3.00 to +3.99
+4.00 and above


Palmer Drought Severity Index
September, 2011
National Climatic Data Center
extreme drought
severe drought
moderate drought
mid-range
moderately moist
very moist
extremely moist
-4.00 and below
-3.00 to -3.99
-2.00 to -2.99
-1.99 to +1.99
+2.00 to +2.99
+3.00 to +3.99
+4.00 and above


Palmer Drought Severity Index
September, 2012
National Climatic Data Center
extreme drought
severe drought
moderate drought
mid-range
moderately moist
very moist
extremely moist
-4.00 and below
-3.00 to -3.99
-2.00 to -2.99
-1.99 to +1.99
+2.00 to +2.99
+3.00 to +3.99
+4.00 and above


Palmer Drought Severity Index
September, 2014
National Climatic Data Center
extreme drought
severe drought
moderate drought
mid-range
moderately moist
very moist
extremely moist
-4.00 and below
-3.00 to -3.99
-2.00 to -2.99
-1.99 to +1.99
+2.00 to +2.99
+3.00 to +3.99
+4.00 and above


Palmer Drought Severity Index
September, 2013
National Climatic Data Center
extreme drought
severe drought
moderate drought
mid-range
moderately moist
very moist
extremely moist
-4.00 and below
-3.00 to -3.99
-2.00 to -2.99
-1.99 to +1.99
+2.00 to +2.99
+3.00 to +3.99
+4.00 and above

Historical Frequencies

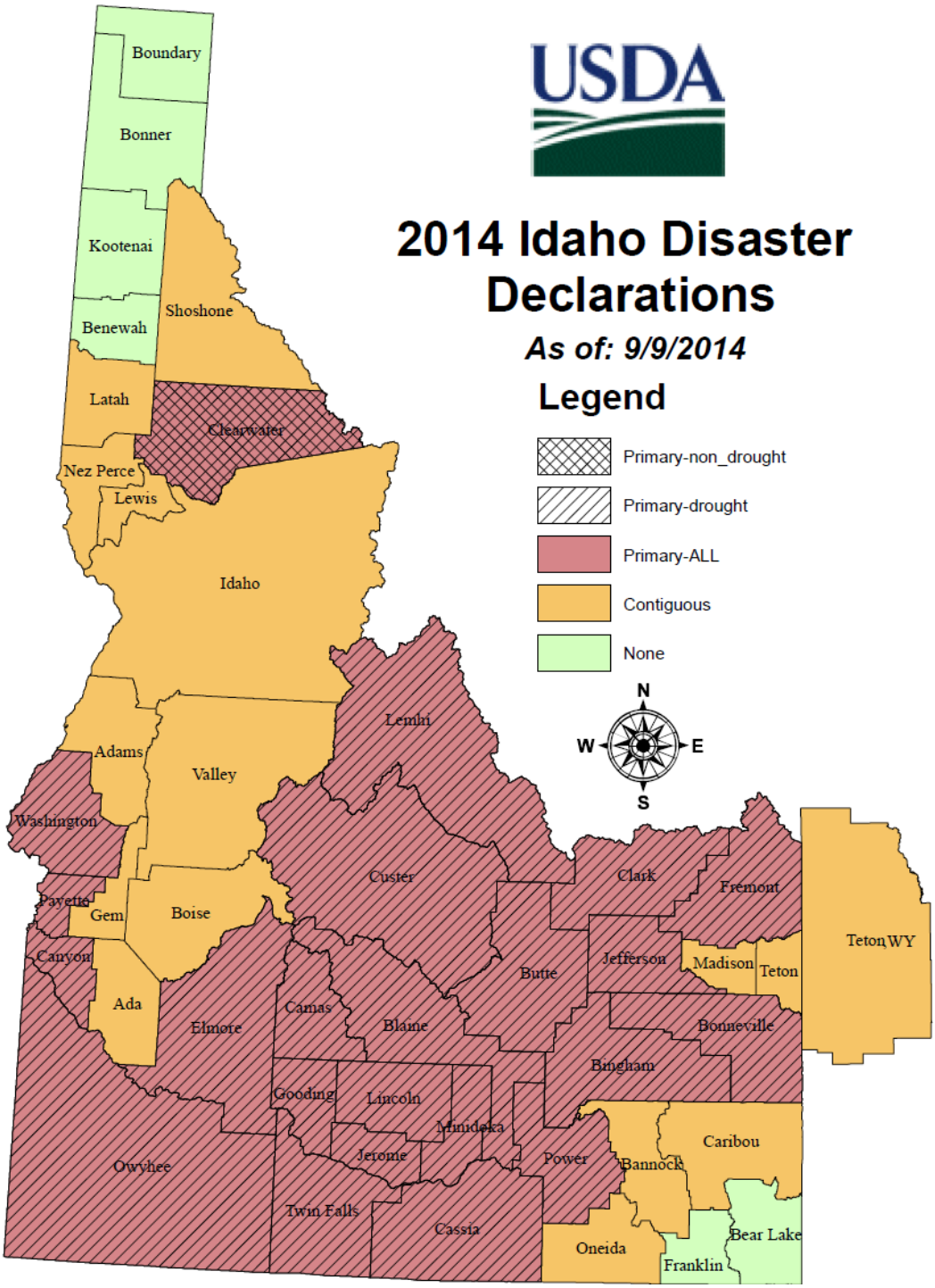
The Idaho Department of Water Resources reports that meteorological drought conditions (a period of low precipitation) existed in the State approximately 30% of the time during the period 1931-1982. Principal drought in Idaho, indicated by stream flow records, occurred during 1929-41, 1944-45, 1959-61, 1977, and 1987-92. The most prolonged drought in Idaho was during the 1930s. For most of the State, that drought lasted for 11 years (1929-41) despite greater than average stream flows in 1932 and 1938. In 1977, the worst single year on record, a severe water shortage occurred throughout Idaho and the West. Stream flows were below normal from 1979 to 1981. A Federal Declaration was issued in 1977 for the State of Idaho as well as Blaine County[14].

According to the Idaho Department of Water Resources (IDWR) the following Drought Emergency Declarations were issued for Blaine County since 2009:

- April 14, 2010
- July 16, 2012
- May 14, 2013
- April 24, 2014

Location	No. of Years	No. of Events	Return Interval
Blaine County	37	14	2.6 Years

[14] Idaho State Hazard Mitigation Plan 2004 http://www.bhs.idaho.gov/bhslibrary/SHMP2004.pdf



Official Use Only

Impacts

Drought is agriculture's most expensive, frequent, and widespread form of natural disaster. The current drought in the interior West is part of a multi-year drought that began in 1999, worsened in 2000, and has continued, with some interruptions thus far into 2004. As a result, the drought in the West was slow to develop, and likewise, will be slow to recede.

Drought produces a complex web of impacts that spans many sectors of the economy and reaches well beyond the area experiencing physical drought. This complexity exists because water is integral to our ability to produce goods and provide services.

Impacts are commonly referred to as direct or indirect. Reduced crop, rangeland, and forest productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality rates; and damage to wildlife and fish habitat are a few examples of direct impacts. The consequences of these impacts illustrate indirect impacts. For example, a reduction in crop, rangeland, and forest productivity may result in reduced income for farmers and agribusiness, increased prices for food and timber, unemployment, reduced tax revenues because of reduced expenditures, increased crime, foreclosures on bank loans to farmers and businesses, migration, and disaster relief programs. Direct or primary impacts are usually biophysical. Conceptually speaking, the more removed the impact from the cause, the more complex the link to the cause. In fact, the web of impacts becomes so diffuse that it is very difficult to come up with financial estimates of damages. The impacts of drought can be categorized as economic, environmental, or social.

Many economic impacts occur in agricultural and related sectors because of the reliance of these sectors on surface and subsurface water supplies. In addition to obvious losses in yields in crop and livestock production, drought is associated with increases in insect infestations, plant disease, and wind erosion. Droughts also bring increased problems with insects, diseases to forests, and reduced growth. The incidence of forest and range fires increases substantially during extended droughts, which in turn places both human and wildlife populations at higher levels of risk.

Loss Estimates

Income loss is another indicator used in assessing the impacts of drought because so many sectors are affected. Reduced income for farmers has a ripple effect. Retailers and others who provide goods and services to farmers face reduced business. This leads to unemployment, increased credit risk for financial institutions, capital shortfalls, and loss of tax revenue for local, State, and Federal government. Less discretionary income affects the recreation and tourism industries. Prices for food, energy, and other products increase as supplies are reduced. In some cases, local shortages of certain goods result in the need to import these goods from outside the stricken region. Reduced water supply impairs the navigability of rivers and results in increased transportation costs because products must be transported by rail or truck. Hydropower production may also be curtailed significantly.

A local emergency disaster may be proclaimed by Blaine County. A proclamation of a local emergency/disaster:

- Is the jurisdiction's formal acknowledgment to the federal government, the Congressional delegation, state legislature, State of Idaho, and the public that the jurisdiction has a severe crisis at hand;
- Formally mobilizes all of the jurisdiction's agencies to support the response effort, within their capabilities; examine the problem of how their services will be affected, look for ways to mitigate the impact on their agencies and the local clientele and use their personnel and resources in the response at the sacrifice of normal program activity, if deemed appropriate; and
- Lays the ground work for obtaining federal and legislative financial support and quickens other state and federal agencies' support and assistance.

In an emergency water shortage situation, Blaine County could register warrants to meet costs of addressing a drought. The levy, not to exceed ten mills on the dollar of taxable property, allowed under Article 7, Section 15 of the Idaho Constitution could be used to repay those warrants

Hazard Evaluation

Drought risk is based on a combination of the frequency, severity, the spatial extent of drought (the physical nature of drought), and the degree to which a population or activity is vulnerable to the effects of drought. The degree of a region's vulnerability depends on the environmental and social characteristics of the region, and is measured by their ability to anticipate, cope with, resist, and recover from drought.

Society's vulnerability to drought is determined by a wide range of factors, both physical and social, such as demographic trends and geographic characteristics.

Repetitive Loss

Blaine County experiences repetitive loss due to drought. Losses are related primarily to the crop production loss and the associated economics. Other losses are linked to a loss of grazing capacity on public lands.

Drought		
Profile Category	**Rating**	**Description**
Historical Occurrence	3	High
Probability	4	High
Vulnerability	4	Catastrophic
Spatial Extent	4	Catastrophic
Magnitude	2	Limited
Total	**17**	**High**

SEVERE WEATHER

Severe Weather includes those hazards that are typically found during the spring, summer, and early fall season of the year in Blaine County. Included in this category are extreme heat, lightning, hail, straight line wind, and tornado. Each hazard is examined independently; however, it is recognized that these hazards typically occur together.

EXTREME HEAT

Description

The term "extreme heat," sometimes called "heat wave," is to some extent a relative one describing a period when weather conditions include temperatures and humidity significantly higher than those usual for a particular geographic area. The National Weather Service (NWS) issues alerts to the public based on its Heat Index, which takes both temperature and humidity into account (see Figure 4.1.7). The NWS will initiate alert procedures when the High is expected to exceed 105°- 110°F (depending on local climate) for at least two consecutive days. The effects of extreme heat are often exacerbated in large urban areas due to the heat island effect and because stagnant atmospheric conditions may trap pollutants. Extreme heat conditions are not common to Idaho where, in general, humidity is low and weather patterns vary.

NOAA's National Weather Service Heat Index

Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

Caution Extreme Caution Danger Extreme Danger

National Weather Service Heat Index Chart

Source: http://www.nws.noaa.gov/om/heat/index.shtml)

Historical Frequencies

There have been no recorded days in which the temperature in Blaine County has reached or exceeded 105 degrees Fahrenheit. A heat wave encompassed all of southeastern Idaho from July 10 -15, 2002. Several records were set including 102 degrees at Picabo and 98 degrees at Ketchum. Since 2010 there has been 5 days where the temperature has been 90 degrees or higher.

Impacts

The primary impact of extreme heat is on human health causing such disorders as sunstroke, heat exhaustion, and heat cramps. Particularly susceptible are the elderly, small children, and persons with chronic illnesses. There are also undoubtedly indirect and chronic health effects from extreme heat the magnitude of which are difficult or impossible to estimate. Environmental effects can include loss of wildlife and vegetation and increased probability of wildfires.

Loss Estimates

Extreme heat places high demands on electrical power supplies that can lead to blackouts or brownouts. Economic impacts result from such factors as increased energy prices, loss of business as people avoid leaving their homes to avoid the heat, and agricultural losses.

Hazard Evaluation

The magnitude of the effects of extreme heat is centered on the individual citizen. Shelters might be opened for the elderly and/or homeless who do not have a means of relief from the heat. Heat related illnesses could cause death if shelter and hydration are not provided. Because the higher elevations are typically five to ten degrees cooler than the valley, extreme heat would most likely affect only that portion of the County at the lower elevations. Economic loss would primarily be related to the cost of energy consumption and to agricultural impacts. Extreme heat would exacerbate drought conditions and make response to wildfire more hazardous.

Extreme Heat		
Profile Category	**Rating**	**Description**
Historical Occurrence	0	Never
Probability	1	Rare
Vulnerability	1	Negligible
Spatial Extent	1	Negligible
Magnitude	1	Negligible
Total	**4**	**Low**

LIGHTNING

Description

Lightning is defined by the NWS as, "A visible electrical discharge produced by a thunderstorm. The discharge may occur within or between clouds, between the cloud and air, between a cloud and the ground, or between the ground and a cloud." A lightning discharge may be over five miles in length, generate temperatures upwards of 50,000ºF, and carry 50,000 volts of electrical potential. Lightning is most often associated with thunderstorm clouds, but lightning can strike as far as five to ten miles from a storm. Thunder is caused by the rapid expansion of air heated by a lightning strike. Cloud-to-ground lightning strikes occur with much less frequency in the northwestern U.S. than in other parts of the country.

Historical Frequencies

There are thousands of lightning strikes that occur in Blaine County in any given year, but only a small percentage cause damage. The Table below shows the number of thunderstorm lightning events over a 33 year period. According to the historical frequency of this record, one can expect at least a major thunderstorm with lightning every 1.4 years.

Lighting Events			
Cause	**Number of Years**	**Number of Events**	**Return Interval**
Thunderstorm	33	24	1.38 Years

Impacts

Lightning is the second most deadly weather phenomenon in the U.S., being second only to floods. On average, sixty to seventy deaths per year are attributed to lightning nationally, and in Idaho the average is less than one per year. Despite the enormous energy carried by lightning, only about 10% of strikes are fatal. Injuries include central nervous system damage, burns, cardiac effects, hearing loss, and trauma. The effects of central nervous system injures tend to be long-lasting and severe, leading to such disorders as depression, alcoholism, and chronic fatigue and in some cases to suicide. Lightning also strikes structures causing fires and damaging electrical equipment. Wildland fires are often initiated by lightning strikes, as are petroleum storage tank fires. About one third of all power outages are lightning-related.

Loss Estimates

The magnitude of economic loss is difficult to estimate. Government figures suggest annual national costs at around $30 million, but some researchers find evidence that losses may be in the billions of dollars.

Hazard Evaluation

Lightning		
Profile Category	**Rating**	**Description**
Historical Occurrence	3	High
Probability	4	High
Vulnerability	2	Limited
Spatial Extent	1	Negligible
Magnitude	3	Critical
Total	**13**	**Medium**

HAIL

Description

The NWS definition of "hail" is: Showery precipitation in the form of irregular pellets or balls of ice more than 5 mm in diameter, falling from a cumulonimbus cloud. Its size can vary from the defined minimum, a little over a quarter of an inch, up to 4.5 inches or larger. "Severe hail" is defined as being 0.75 inches or more in diameter. The largest hailstones are formed in supercell thunderstorms because of their sustained updrafts and long duration. Hail and severe hail are relatively uncommon in Idaho. In the ten year period from 1986 to 1995 the national weather service recorded severe hail in Idaho on 113 occasions while in the same time period severe hail was recorded in Colorado nearly 1,400 times.[15]

Historical Frequencies

The following table provides a return interval for thunderstorms with damaging hail as reported by the National Weather Service between 1960 and 2012.

Hail			
Cause	**Number of Years**	**Number of Events**	**Return Interval**
Thunderstorm	52	10	5.2 Years

Impacts

Deaths and injuries do happen but are rare.

Loss Estimates

Economic loss can be extensive, especially to agricultural based economies. Hail is very damaging to crops. Severe hail may cause extensive property damage including damage to vehicle paint and bodywork, glass, shingles and roofs, plastic surfaces, etc. Hail loss nationally is estimated at over one billion dollars annually.

[15] http://www.ems.psu.edu/~nese/ch9web.htm

Hazard Evaluation

Hail		
Profile Category	**Rating**	**Description**
Historical Occurrence	2	Medium
Probability	4	High
Vulnerability	2	Limited
Spatial Extent	1	Negligible
Magnitude	1	Negligible
Total	**10**	**Low**

TORNADO

Description

The NWS describes tornado as, "a violently rotating column of air, usually pendant to a cumulonimbus, with circulation reaching the ground. It nearly always starts as a funnel cloud and may be accompanied by a loud roaring noise. On a local scale, it is the most destructive of all atmospheric phenomena." Like hail, most tornadoes are spawned by supercell thunderstorms. They usually last only a few minutes, although some have lasted more than an hour and traveled several miles. Wind speeds within tornadoes are estimated based on the damage caused and expressed using the Enhanced Fujita (EF) Scale.

F scale	Class	Wind speed		Description
		mph	km/h	
F0	weak	65-85	105-137	Gale
F1	weak	86-110	138-177	Moderate
F2	strong	111-135	178-217	Significant
F3	strong	136-165	218-266	Severe
F4	violent	166-200	267-322	Devastating
F5	violent	> 200	> 322	Incredible

Enhanced Fujita (EF) Scale for Estimation of Tornado Wind Speeds
http://www.srh.noaa.gov/srh/jetstream/mesoscale/tornado.htm

Historical Frequencies

The table below lists recorded tornado and funnel cloud events in Blaine County. There have been 7 recorded tornado, or funnel cloud, events in Blaine County from 1960-2014.

Tornado			
Cause	**Number of Years**	**Number of Events**	**Return Interval**
Thunderstorms	26	7	3.7 Years

Funnel Clouds are associated with a rotating column of air extending from the base of a cloud. If a funnel cloud touches the ground, it becomes a tornado. For this reason funnel cloud events were included in the frequency table.

Idaho has relatively few tornadoes, averaging three reported per year between 1953 and 2014. Tornadoes of F2 strength or greater are extremely rare in Idaho.

Impacts

Loss of utilities (primarily due to fallen trees) is common following tornadoes and, depending on circumstances, communities might be deprived of almost any kind of goods and services including food, water, and medical care. Agriculturally, crop and livestock loss is also possible as is loss of timber production.

Loss Estimates

There has been $125,000 reported loss in the community from damage caused by Tornado activity.

Hazard Evaluation

Tornado		
Profile Category	**Rating**	**Description**
Historical Occurrence	2	Medium
Probability	3	Medium
Vulnerability	1	Negligible
Spatial Extent	1	Negligible
Magnitude	3	Critical
Total	**10**	**Low**

STRAIGHT LINE WINDS

Description

The term "straight line wind" is used to describe any wind not associated with rotation, particularly tornadoes. Of concern is "high wind," defined by the NWS as, "Sustained wind speeds of 40 mph or greater lasting for 1 hour or longer, or winds of 58 mph or greater for any duration." Like tornadoes, strong, straight line winds are generated by thunderstorms, and they can cause similar damage. Straight line wind speeds can approach 150 mph, equivalent to those in an F3 tornado.

Historical Frequencies

From 1960 through 2014 there were 83 damaging wind events were reported by the National Weather Service.

Straight Line Wind			
Cause	**Number of Years**	**Number of Events**	**Return Interval**
Wind	54	83	0.65 Years

A significant wind event occurred on July 31, 2013 in Carey. Several gusts in excess of 58 mph occurred on the 31st of July from thunderstorm winds.[16]

Impacts

The impacts of straight line winds are virtually the same as those from tornadoes with similar wind speeds. The damage is distinguishable from that of a tornado only in that the debris is generally deposited in nearly parallel rows. Downbursts are particularly hazardous to aircraft in flight.

Loss Estimates

Since 1916 there has been some reported damage due to straight line or downburst damage in Blaine County, but no estimates were given.

Hazard Evaluation

Straight Line Wind		
Profile Category	**Rating**	**Description**
Historical Occurrence	3	High
Probability	4	High
Vulnerability	3	Critical
Spatial Extent	3	Critical
Magnitude	3	Critical
Total	**16**	**High**

[16] NOAA NCDC Storm Event Database

Severe Weather Hazard Evaluation

Repetitive Loss:

Severe Weather occurs frequently in Blaine County, and it is assumed that there are repetitive losses especially caused by Straight Line Wind damage; however, this type of loss is not reported to a single point and thus is hard to track and quantify.

In 2014 an unusual chain events resulted in a USDA Disaster Declaration due to severe weather. The following is a description of that declaration as released by the USDA Secretary.

USDA Designates 8 Counties in Idaho as Primary Natural Disaster Areas

October 05, 2014 1:00 am • TIMES-NEWS

BOISE | Aaron Johnson, acting state executive director for the U.S. Department of Agriculture Farm Service Agency (FSA) in Idaho, announced this week that eight counties in Idaho have been designated as primary natural disaster areas due to losses and damages caused by excessive rain, flash flooding and hail that occurred from July 25 through Sept. 1. Those counties are Bingham, Bonneville, Clark, Minidoka, ***Blaine,*** [Emphasis Added] Cassia, Jefferson and Power.

"President Obama and I are committed to ensuring that agriculture remains a bright spot in our nation's economy by sustaining the successes of America's farmers, ranchers, and rural communities through these difficult times," said Agriculture Secretary Tom Vilsack. "We're also telling Idaho producers that USDA stands with you and your communities when severe weather and natural disasters threaten to disrupt your livelihood."

Farmers and ranchers in the following counties in Idaho also qualify for natural disaster assistance because their counties are contiguous. Those counties are Bannock, Camas, Custer, Fremont, Lemhi, Madison, Teton, Butte, Caribou, Elmore, Jerome, Lincoln, Oneida and Twin Falls. . . . . .

. . . . . Farmers in eligible counties have eight months from the date of the declaration to apply for loans to help cover part of their actual losses. FSA will consider each loan application on its own merits, taking into account the extent of losses, security available and repayment ability. FSA has a variety of programs, in addition to the EM loan program, to help eligible farmers recover from adversity.

"During 2014 Idaho has had disaster declarations for everything from drought to hail and too much moisture," said Johnson. "We want producers to know that FSA is doing all they can to help Idaho's farmers and ranchers when these natural disasters impact their operations."

http://magicvalley.com/business/agriculture/usda-designates-counties-in-idaho-as-primary-natural-disaster-areas/article_ed059882-4f97-5f2d-9347-c454f222dc01.html

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Extreme Heat	0	1	1	1	1	**4**	**L**
Lightning	3	4	2	1	3	**13**	**M**
Hail	2	4	2	1	1	**10**	**L**
Tornado	2	3	1	1	3	**10**	**L**
Straight Line Wind	3	4	3	3	3	**16**	**H**
Composite Ranking							
Severe Weather	3	4	2	2	3	**14**	**M**

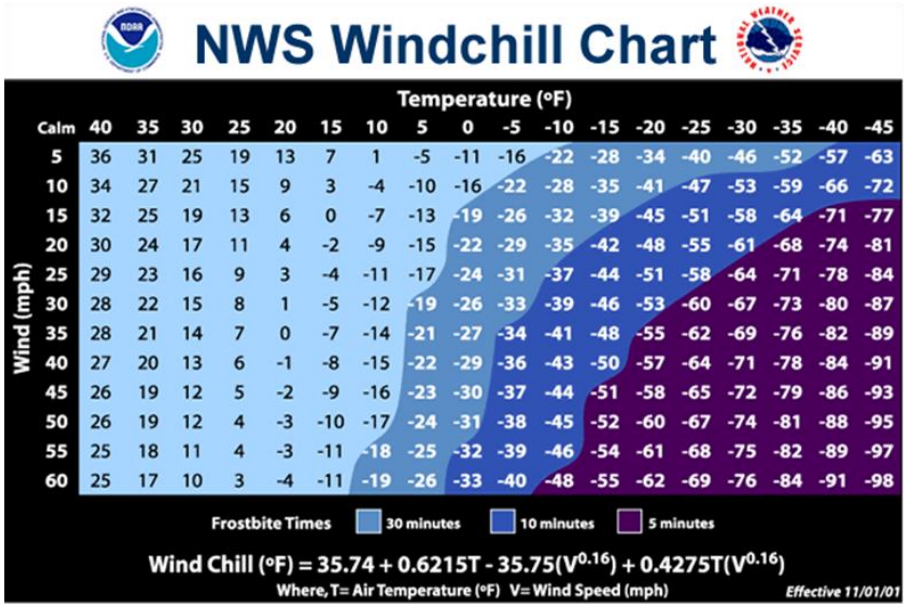
SEVERE WINTER STORMS

The Severe Winter Storms category includes extreme cold and winter storms. It should be noted that Straight Line Wind is also associated with Severe Winter Storms commonly referred to as Blizzard Conditions, where snow is driven by wind causing drifting.

EXTREME COLD

Description

"Extreme cold" is another of the terms describing hazards that must be defined relative to what is considered normal in a given locale. What might be considered extreme cold varies considerably in the State of Idaho where normal winter temperatures in the southwest are appreciably more moderate than those in the northwest and far north. Very cold temperatures become a particular hazard when accompanied by winds of 10 mph or greater. The NWS has developed a formula for calculating "wind chill" based on temperature and wind speed, and in this region issues wind chill advisories when the wind chill temperature is predicted to be -10°F or less with winds of 10 mph or higher for one hour or more. Wind chill warnings are issued when wind chill temperature will be -20°F or less with winds of 10 mph or higher for one hour or more. As with extreme heat, extreme cold is of greatest concern when the condition persists for an extended period of time.



NWS Windchill Chart

Wind (mph) \ Temperature (°F)	Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5		36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10		34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15		32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20		30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25		29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30		28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35		28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40		27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45		26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50		26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55		25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60		25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98

Frostbite Times: 30 minutes, 10 minutes, 5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T= Air Temperature (°F) V= Wind Speed (mph) Effective 11/01/01

National Weather Service Windchill Chart
http://www.weather.gov/om/windchill/index.shtml

Historical Frequencies

Data from two NWS weather stations were analyzed in the frequency analysis. The station at Ketchum recorded 205 days in which the temperature reached or fell below 10 degrees Fahrenheit (2010-2014). The chart in the Table below shows the frequency of extreme cold events, which can be expected to occur at least every year.

Location	No. of Years	No. of Events	Frequency
Ketchum	5	205	0.02 years or 41 days a year below 10 degree F.

Frequency of Extreme Cold Events

Though the historic frequency is 41 events per year, the following chart shows that extreme cold events happen in clusters. In years in which an extreme cold event occurs, it is likely that there will be more than one event in the winter months which are defined as January – March and November - December. A cold cluster is days where the low temperature is 10 degrees F or below for more than 3 days. Because of the cluster factor the frequency of extreme cold events in Blaine County is 0.65 months. The longest cluster of cold days was 13 days in January 2013.

Significant Cold/Wind Chill Events 2000-2014
Source – NOAA NCDC Storm Events Database

Event	Date	Description
Cold/wind Chill	12/6/2005	Bitterly cold air slipped west across the continental divide behind an arctic cold front. Strong north to northeast winds in the 15 to 25 mph range dropped wind chill readings to -20 to -30 degrees across much of southeast Idaho overnight on the 6th and early morning on the 7th.
Extreme Cold/Wind Chill	2/1/2011	The Smiley Creek Airport recorded a -46 degree wind chill on the morning of the 1st and Lone Pine recorded -33 degrees
Severe Winter Storm	1/10/2013	A powerful Pacific storm with a strong cold frontal passage caused 9 inches to as much as 44 inches in the southeast Idaho mountains with 3 to as much as 8 inches of snow in the Snake River Plain and valleys. Some blizzard conditions occurred with many school closings on the 10th and 11th.

Impacts

Health effects of exposure to extreme cold include hypothermia and frostbite, both of which can be life-threatening. Infants and the elderly are most susceptible. In the United States, nearly 700 deaths are directly attributed to hypothermia annually.

Loss Estimates

Extreme cold may cause loss of wildlife and vegetation, and kill livestock and other domestic animals. Economic loss may result from flooding due to burst pipes, large demands on energy resources, and diminished business activity. River flooding may take place as a result of the formation of ice jams.

Hazard Evaluation

Extreme cold affects the individual, families, cities, and the County. Damage typically occurs to individual properties; however, city water systems are usually vulnerable to extreme cold. Repairs to water line freeze ups and breaks typically require the roadways to be excavated necessitating additional maintenance and repairs during the warmer months. As demonstrated in the historical frequency section, areas of the County can expect as much as 20 -25 degrees difference depending on elevation.

Extreme Cold can cause death and injury especially to those working or stranded outside for prolonged periods. Economic loss is related to private individuals, businesses, and government agencies in heating of homes and facilities. Additional losses can be expected to the livestock industry. During extreme cold periods the schools are closed to protect children traveling to and from school.

During the spring, summer, and fall, temperatures can drop low enough to produce frost. While such temperatures are not low enough to damage infrastructure or require extra heating costs, it can be devastating to crops.

Warning lead times in Blaine County usually are a day or two, based on forecasts made by the National Weather Service in Pocatello.

Repetitive Loss

Blaine County does experience repetitive loss related to extreme cold events. The losses are primarily associated with freezing and breaking municipal water lines. While there is some repetitive flooding caused by ice jams along the Big Wood River, economic losses are not repetitive.

Extreme Cold		
Profile Category	**Rating**	**Description**
Historical Occurrence	3	High
Probability	4	High
Vulnerability	3	Critical
Spatial Extent	4	Catastrophic
Magnitude	3	Critical
Total	**17**	**High**

WINTER STORM

Description

The NWS describes "Winter Storm" as weather conditions that produce heavy snow or significant ice accumulations. For purposes of this analysis Severe Winter Storm is defined as any winter condition where the potential exists for a blizzard (winds >= 35mph and falling/drifting snow frequently reduce visibility < ¼ mile, for 2 hrs or more) heavy snowfall (valleys 6 inches or more snowfall in 24 hrs mountains 9 inches or more snowfall in 24 hrs), ice storm, and/or strong winds.

Historical Frequencies

The following table lists the frequency of heavy snow events (6 inches or more in a 24 hour period) for two weather stations in Blaine County;

Location	No. of Years	No. of Events	Return Interval
Blaine County	52	38	1.36 Years

Heavy Snow Event Frequencies

While winter storms happen multiple times every year in Blaine County. The southern part of the County doesn't experience the number of storms that the northern portion does, but winter storms are still prevalent. Severe winter storms as defined above have a return interval of 1.36 years.

Significant Winter Storm Events 2000-2014
Source – NOAA NCDC Storm Events Database

Event	Date	Description
Blizzard	12/14/2000	An intense winter storm brought blizzard conditions to nearly all of southeastern Idaho from the evening of the 14th through the day on the 15th. Heavy snow began in the central mountains during the evening of the 14th. A woman died near Craters of the Moon National Monument in Butte County when she and her boyfriend ran out of gas and left the vehicle searching for help. She was unable to make it due to fatigue and her body was found on 12/16 at 3 am. Winds gusting to 70 mph in the early morning of the 15th caused power lines and trees to come down in Burley and Rupert. By the morning of the 15th, blizzard conditions encompassed most of southeast Idaho. Snow amounts of 6 to 8 inches were reported in Ketchum, Tetonia, Driggs, and Victor with 4 foot drifts in Soda Springs. Many road closures were reported during the day on the 15th due to the blizzard conditions. During the day of the 15th wind gusts throughout the blizzard were widespread between 50 and 65 mph through all of southeast Idaho.

Event	Date	Description
Blizzard	12/28/2003	A long lasting winter storm brought blizzard conditions to much of southeast Idaho beginning the night of the 28th and peaking on December 29th and drawing to a close on the 30th. The worst conditions occurred on the 29th and many major interstates closed due to the blizzard conditions. Some details from the storm including snow totals were 13 inches at Galena Summit, 8 inches at Minidoka with 4 foot drifts, 12 inches at Driggs and 18 inches at Palisades with 4 feet drifts, 16 inches at Holbrook, 8 inches at Malad with 2 foot drifts, 12 inches at Kilgore with 3 foot drifts, 50 to 60 mph wind gusts in Pocatello, 12 to 14 inches at Hailey, 18 to 20 inches at Ketchum, over 300 road slide offs and 60 crashes reported by the Idaho State Police. In addition to the interstate closures, several state highways and local roadways were closed during the day on the 29th.
Blizzard	1/1/2004	An incredible storm concluded a very active holiday weather week in southeast Idaho with widespread snow and wind beginning Christmas and continuing almost without interruption through New Year's Day. The final storm during January 1st was the highlight of the week with a widespread blizzard affecting all of southeastern Idaho from the central mountains extending east and south to the Utah and Wyoming borders. An intense pacific storm system caused the event with a strong surface low pressure moving rapidly through the Idaho panhandle late in the day. The blizzard came in two waves with very strong southerly winds ahead of the cold front during the day. All roads in Blaine, Bingham and Power County were closed. It was estimated that by the morning of the 2nd, 25 major roads in eastern and central Idaho were closed. The blizzard peaked with the passage of the strong cold front trailing south from the low which moved west to east through the forecast area from approximately 6 pm through 9 pm. Extensive cloud to ground lightning occurred along the front and snowfall rates just behind the front were in the 2 to 4 inch per hour range. The strongest winds of the storm occurred just ahead of the front with sustained wind speeds of 35 to 45 mph and gusts of 55 to 65 mph common in the frontal region. Snowfall amounts were difficult to gauge. From spotters, snowfall estimates were 5.5 inches at the Pocatello airport with generally 6 to 9 inches reported in town and on the benches, 6 inches fell in Idaho Falls, 6 inches in Blackfoot, 4 inches in Ashton, 30 inches at Island Park, 8 inches at Hailey, 18 inches at Galena Lodge, 10 inches at Stanley, 4 inches at Challis, 12 inches at Arco, and 8 inches at Mink Creek. Some of the significant SNOTEL estimates were 30 inches at Bear Canyon, 19 inches at Mill Creek, 33 inches at Crab Creek, 37 inches at White Elephant, 9 inches at Bostetter, 14 inches at Oxford Springs, 21 inches at Sedgewick Peak, 24 inches at Galena, 31 inches at Lost Wood Divide, 32 inches at Swede Peak, 27 inches at Vienna Mine, 24 inches at Hilts Creek, and 9 inches at Somsen Ranch.
Heavy Snow	11/16/2013	A Pacific storm system moved through eastern Idaho and brought heavy snowfall totals to many mountain SNOTEL sites. The highest amount was 21 inches at White Elephant in the Upper Snake River Highlands.
Heavy Snow	12/1/2013	Heavy snow fell at high elevation SNOTEL sites with the following amounts recorded: 9 inches at Hyndman, 10 inches at Lost Wood Divide, and 28 inches at Vienna Mine.

Event	Date	Description
Heavy Snow	12/6/2013	Sixteen inches of snow fell at Lost Wood Divide, Dollarhide Summit, and Galena. 25 inches of snow fell at Galena Summit with 18 inches at Garfield Ranger Station.
Heavy Snow	1/11/2014	Nine inches of snow fell at the Galena SNOTEL with 8 inches at Hyndman. The heaviest amounts were at the Lost Wood Divide SNOTEL with 12 inches and the Vienna Mine SNOTEL with 18 inches.
Heavy Snow	2/7/2014	Area SNOTEL reports were: 26 inches at Dollarhide, 24 inches at Chocolate Gulch, 35 inches at Galena, 34 inches at Galena Summit, 12 inches at Garfield Ranger Station, 33 inches at Lost Wood Divide, 17 inches at Hyndman, 16 inches at Swede Peak, and 48 inches at Vienna Mine.
Heavy Snow	2/12/2014	Area SNOTEL snow amounts were: Dollarhide Summit 9 inches, Galens 9 inches, Galena Summit 9 inches, Lost Wood Divide 9 inches, Vienna Mine 16 inches.
Heavy Snow	2/14/2014	Area SNOTEL snowfall amounts were: 10 inches at Vienna Mine, 11 inches at Lost Wood Divide, 9 inches at Galena Summit, and 11 inches at Galena.

Impacts

The impacts of the very cold temperatures that may accompany a severe winter storm are discussed above. Other life threatening impacts are numerous. Motorists may be stranded by road closures or may be trapped in their automobiles in heavy snow and/or low visibility conditions. Bad road conditions cause automobiles to go out of control. People can be trapped in homes or buildings for long periods of time without food, heat, and utilities. Those who are ill may be deprived of medical care by being stranded, or through loss of utilities and lack of personnel at care facilities. Use of heaters in automobiles and buildings by those who are stranded may result in fires or carbon monoxide poisoning. Fires during winter storm conditions are a particular hazard because fire service response is hindered or prevented by road conditions, and because water supplies may be frozen. Disaster Services may also not be available if telephone service is lost. People who attempt to walk to safety through winter storm conditions often become disoriented and lost. Downed power lines not only deprive the community of electricity for heat and light, but pose an electrocution hazard. Death and injury may also occur if heavy snow accumulation causes roofs to collapse

Loss Estimates

Economic impacts arise from numerous sources including: hindered transportation of goods and services, flooding due to burst water pipes, forced closing of businesses, inability of employees to reach the workplace, damage to homes and structures, automobiles and other belongings by downed trees and branches, loss of livestock and vegetation, and many others.

Hazard Evaluation

Winter Storms		
Profile Category	**Rating**	**Description**
Historical Occurrence	3	High
Probability	4	High
Vulnerability	3	Critical
Spatial Extent	4	Catastrophic
Magnitude	3	Critical
Total	**17**	**High**

Severe Winter Storm Hazard Evaluation

Repetitive Loss:

Severe Winter Storms occur almost annually in Blaine County and it is assumed that there are repetitive losses especially caused by cold weather clusters; however, this type of loss is not reported to a single point and thus is hard to track and quantify.

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Extreme Cold	3	4	3	4	3	**17**	**H**
Winter Storm	3	4	3	4	3	**17**	**H**
Composite Ranking							
Severe Winter Storms	3	4	3	4	3	**17**	**H**

FLOODING

Flooding is defined by NWS as "the inundation of normally dry areas as a result of increased water levels in an established water course." River flooding, the condition where the river rises to overflow its natural banks, may occur due to a number of causes including prolonged, general rainfall, locally intense thunderstorms, snowmelt, and ice jams. In addition to these natural events, there are a number of factors controlled by human activity that may cause or contribute to flooding. These include dam failure, levee failure, and activities that increase the rate and amount of runoff such as paving, reducing ground cover, and clearing forested areas. Flooding is a periodic event along most rivers with the frequency depending on local conditions and controls such as dams and levees. The land along rivers that is identified as being susceptible to flooding is called the floodplain. The Federal standard for floodplain management under the National Flood Insurance Plan (NIFP) is the "100-year floodplain." This area is chosen using historical data such that in any given year there is a one percent chance of a "Base Flood" (also known as "100-year Flood" or "Regulatory Flood"). A Base Flood is one that covers or exceeds the 100-year floodplain. In Idaho, flooding most commonly occurs in the spring of the year and is caused by snowmelt. Floods occur in Idaho every one to two years and are considered the most serious and costly natural hazard affecting the State. In the twenty-five years from 1976 to 2000 there were five Federal and twenty-eight State disaster declarations due to flooding. The amount of damage caused by a flood is influenced by the speed and volume of the water flow, the length of time the impacted area is inundated, the amount of sediment and debris carried and deposited, and the amount of erosion that may take place.

Flooding is a dynamic natural process. Along rivers, streams, and coastal bluffs a cycle of erosion and deposition is continuously rearranging and rejuvenating the aquatic and terrestrial systems. Although many plants, animals, and insects have evolved to accommodate and take advantage of these ever-changing environments, property and infrastructure damage often occurs when people develop coastal areas and floodplains and natural processes are altered or ignored.

Flooding can also threaten life, safety, and health and often results in substantial damage to infrastructure, homes, and other property. The extent of damage caused by a flood depends on the topography, soils and vegetation in an area, the depth and duration of flooding, velocity of flow, rate of rise, and the amount and type of development in the floodplain.

Flood Terminology

A number of flood-related terms are frequently used in this plan and are defined below.

Flood Insurance Study (FIS): A *Flood Insurance Study* is the official report provided by the Federal Insurance Administration, which provides flood profiles, the flood boundary-floodway map, and the water surface elevation of the estimated 100-year base flood.

Flood Insurance Rate Map (FIRM): The Flood Insurance Rate Maps (FIRM) are the official maps on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

100-year Base Flood: Base Flood means the flood having a 1% chance of being equaled or exceeded in any given year. (Also referred to as the "100-year flood".)

Floodplain: A floodplain is land adjacent to a lake, river, stream, estuary, or other water body that is subject to flooding. If left undisturbed, the floodplain serves to store and discharge excess floodwater. In riverine systems, the floodplain includes the floodway.

Floodway: "Floodway" means the channel of a river or other watercourse and the adjacent areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

Types of Flooding

Flooding can occur in a number of ways, and many times are not independent of each other and can occur simultaneously during a flood event: The Types of Flooding considered for this Plan include:

- heavy rainfall
- urban storm water overflow
- rapid snowmelt
- rising ground-water (generally in conjunction with heavy prolonged rainfall and saturated conditions)
- riverine ice jams
- flash floods
- fluctuating lake levels
- alluvial fan flooding

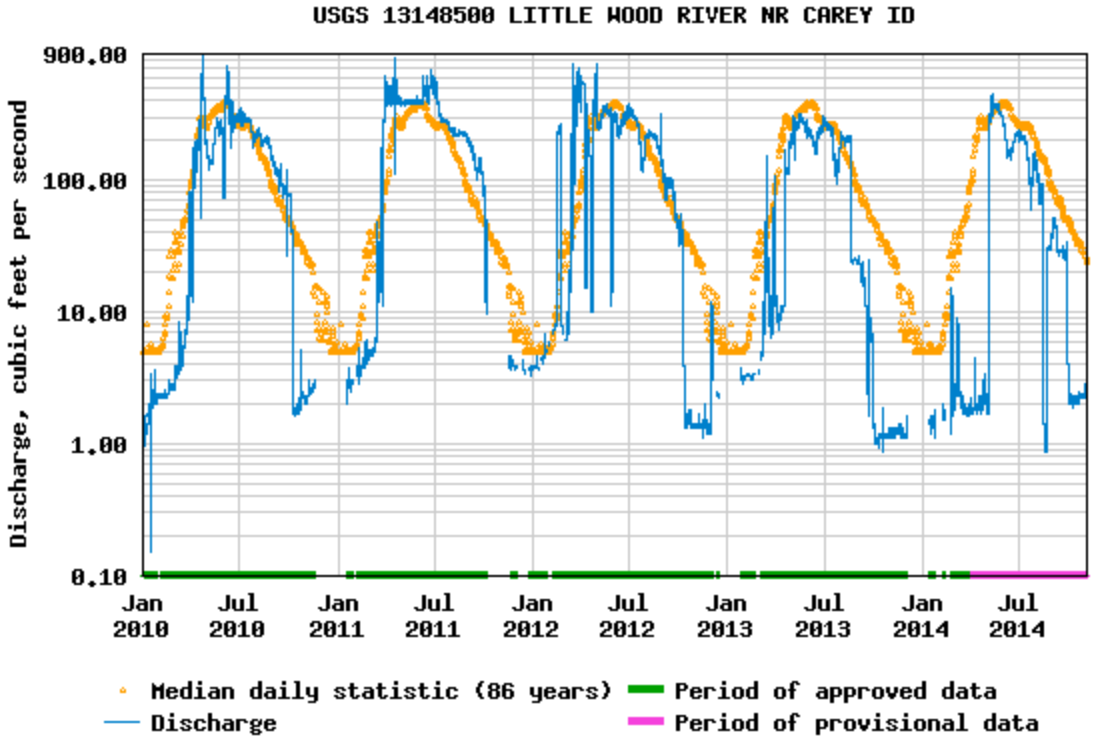
RIVER OR STREAM FLOODING

Description

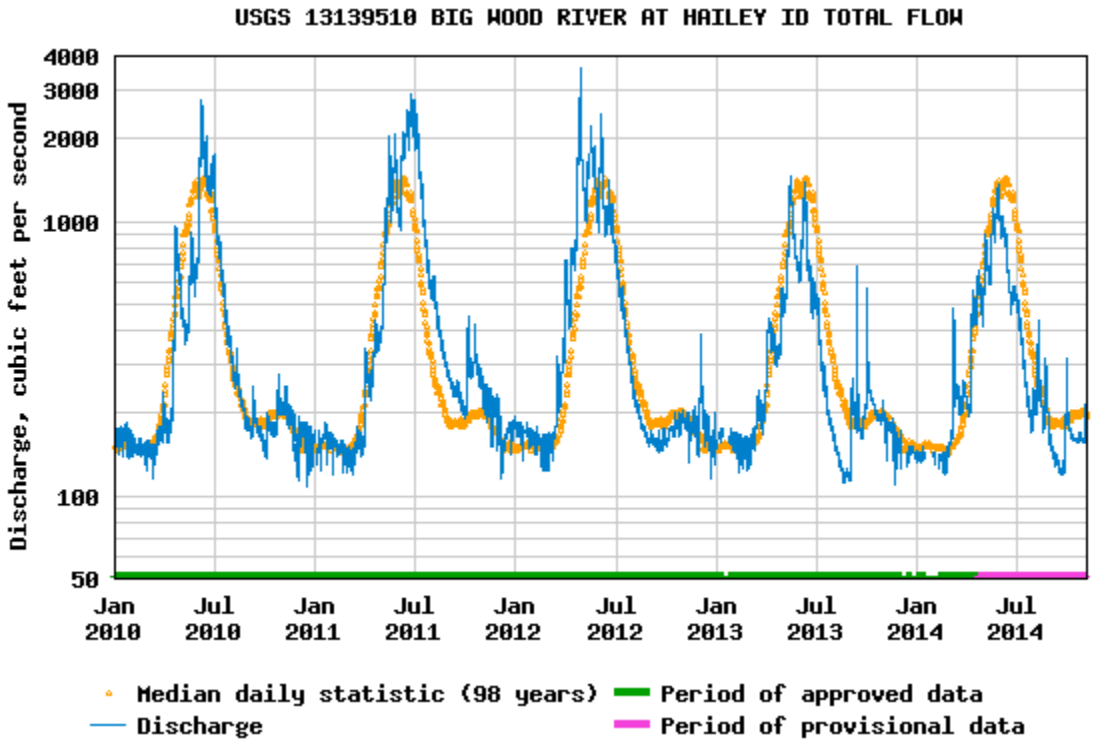
River flooding, the condition where the river rises to overflow its natural banks, may occur due to a number of causes including prolonged, general rainfall, locally intense thunderstorms, snowmelt, and ice jams.

Historical Frequencies

The National Weather Service recognized flood level for the Little Wood River at Carey is 1,500 cubic feet per second (cfs). The USGS stream gage at that location has recorded for 86 years. The Figure below illustrates the flows from 2010 through 2014.



The NWS recognized flood level for the Big Wood River at Hailey is 3,500 cfs. The USGS stream gage at that location has recorded for 98 years. The figure below illustrates the flow from 2010 through 2014. Note the flood level was exceeded in May of 2012.



The table below shows the calculated flood frequencies for the Little and Big Wood Rivers. There is a 7% chance each year that the Little Wood River will flood at Carey, and a 25% chance that the Big Wood River will flood at Hailey. Hailey can expect one event at least every four years and Carey can expect an event every 14.3 years.

Flood Events			
Location	**No. of Events**	**No. of Years**	**Return Interval**
Carey (Little Wood River)	6	86	14.3 Years
Hailey (Big Wood River)	24	98	4.1 Years

Flood Events

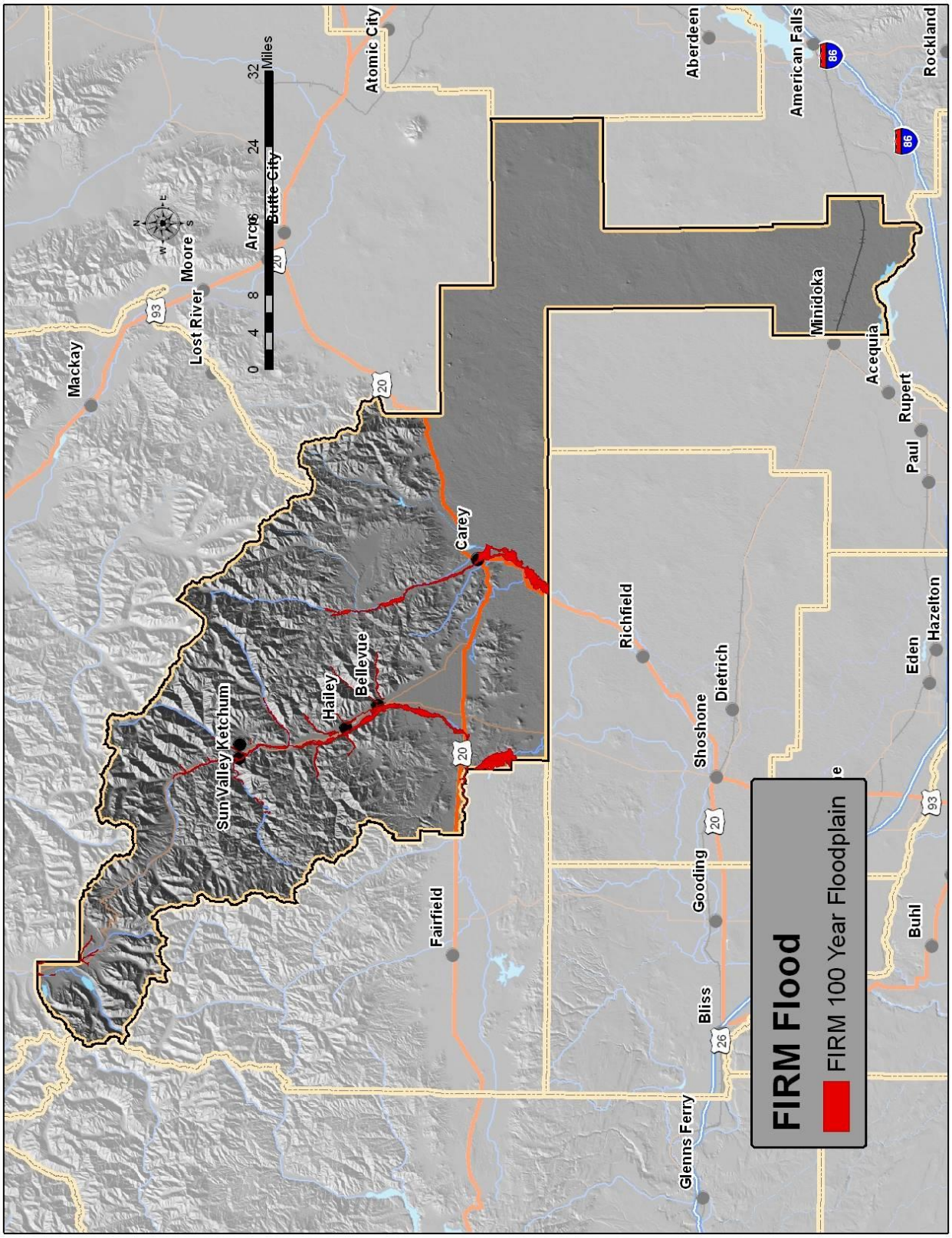
Impacts

Human death and injury sometimes occur as a result of river flooding but are not common. Human hazards during flooding include drowning, electrocution due to downed power lines, leaking gas lines, fires and explosions, hazardous chemicals, and displaced wildlife. Economic loss and disruption of social systems are often enormous. Floods may destroy or damage structures, furnishings, business assets including records, crops, livestock, roads and highways, and railways. They often deprive large areas of

electric service, potable water supplies, wastewater treatment, communications, and many other community services including medical care, and may do so for long periods of time.

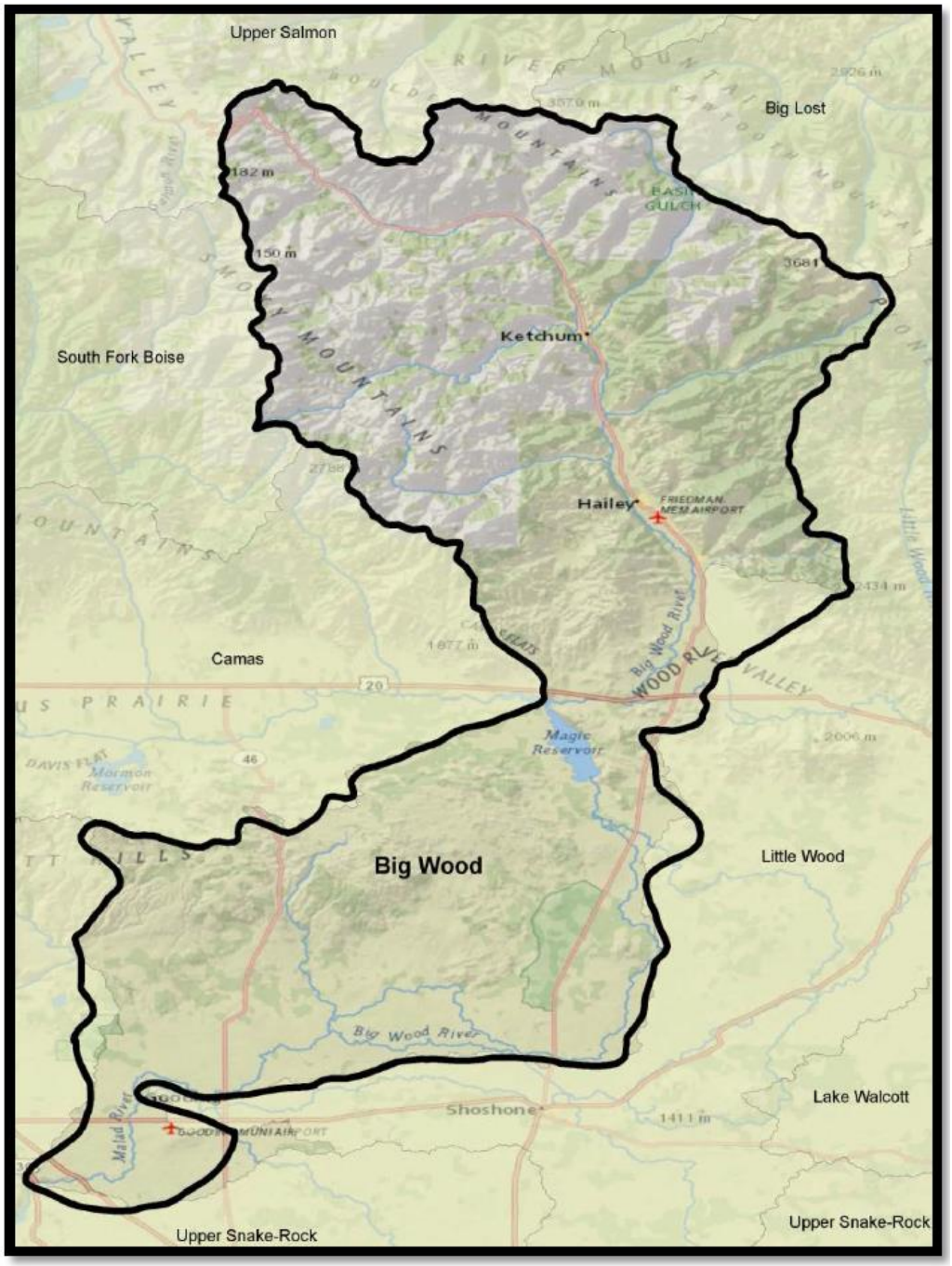
Loss Estimates

The Flood Insurance Rate Map (FIRM) for Blaine County is presented below. The Watershed Overview Map on the next page represents that Big Wood Watershed. The information that follows that figure is taken directly from the Flood Risk Report, For the Big Wood Watershed Study Area prepared in April 12, 2014 by the Army Corp of Engineers. Note the information following the watershed map provides information generated by the ACE on the expected losses in the communities affected in the watershed. Individual community information is found in the Community Vulnerability Section of this Plan.



FIRM Floodplain

Watershed Overview Map



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[17] Flood Risk Report, For the Big Wood Watershed Study Area, Draft April 12, 2014

Watershed	HUC	Area Miles	Total Community Population	HAZUS Estimated Building Value Exposed	Presidentially Declared Disasters	Environmental Sensitive Issues	Flood Claims	Repetitive Loss Properties
Big Wood	1470219	1434	23177	$3,353,212,000	3	Y	62	1

Big Wood Watershed, located in Idaho, includes the following communities:

Community Name	CID	Total Community Population	HAZUS Estimated Building Value Exposed	Presidentially Declared Disasters	Environmental Sensitive Issues	CRS Community	Flood Claims	Repetitive Loss Properties	Total Policies	Total Insurance Coverage
Bellevue	160021	2232	$45,500,000	1	Y	N	0	0	28	$7,824,200
Gooding	160064	3486	$32,971,000	1	Y	N	291	0	80	$11,731,500
Hailey	160022	7507	$669,446,000	1	Y	Y	33	1	119	$30,433,200
Ketchum	160023	2717	$758,053,000	1	Y	Y	21	0	126	$43,295,600
Sun Valley	160024	1355	$465,730,000	1	Y	Y	5	0	34	$13,796,900

The estimated HAZUS Building Value exposed is an estimate of the structure and content value within the entire community and does not differentiate between structures located within hazard areas and those located outside hazard areas.

Flood claims are indicative of past damage to structures. In general, unless a community has pursued mitigation measures, a greater number of flood claims suggest that there is a greater potential for future losses. Communities can use this information to identify mitigation opportunities.

Flood Depth Grids

The database contains datasets in the form of depth grids for the entire study area that can be used for additional analysis, enhanced visualization, and communication of flood risks for hazard mitigation planning and emergency management. Depth Grids are used to calculate the losses for each flood return period below.

HAZUS-MH Estimated Loss Information

	Total Inventory		10% (10-yr)		2% (50-yr)		0.5% (200-yr)	
	Estimated Value	Percent of Total	Dollar Losses	Loss Ratio	Dollar Losses	Loss Ratio	Dollar Losses	Loss Ratio
Residential Building/Contents	$243,512,000	73%	$45,792,000	79%	$54,421,000	79%	$62,835,000	78%
Commercial Building/Contents	$652,983,000	19%	$12,164,000	21%	$13,943,000	21%	$16,805,000	21%
Other Building/Contents	$265,109,000	8%	$269,000	.05%	$338,000	.05%	$476,000	.06%
Total	**$3,353,212,000**	**100%**	**$58,225,000**	**2.9%**	**$68,702,000**	**3.4%**	**$80,116,000**	**.65%**

Source: HAZUS-MH analysis using default data and Risk MAP AAL depth grids
[1] Total Building/Content Losses = Residential Building/Content Loss + Commercial Building/Content Loss + Other Building/Content Loss.
[2] Loss ratio = Dollar Losses / Estimated Value. Loss ratios are computed using actual loss and value numbers from HAZUS, not rounded numbers.
[3] Losses are rounded to the nearest thousand and loss ratios are rounded to the nearest whole number.

The State of Idaho Bureau of Homeland Security updated the State Hazard Mitigation Plan in 2013 and ran three HAZUS scenarios analyses for each county in the State. The analyses looked at 25 year events, 100 year events, and 500 year events. The results are presented for each scenario in summary below.

25 Year Event

HAZUS estimates that there are 13,023 buildings in the region which have an aggregate total replacement value of $1,997 million (2006 dollars). HAZUS estimates that about 286 buildings will be at least moderately damaged. The model estimates 616 households will be displaced due to the flood. Of these, 1,027 people (out of a total population of 18,991) will seek temporary shelter in public shelters. The total economic loss estimated for the flood is $62.83 million dollars, which represents 5.99 % of the total replacement value of the scenario buildings.

100 Year Event

HAZUS estimates that there are 13,023 buildings in the region which have an aggregate total replacement value of $1,997 million (2006 dollars). HAZUS estimates that about 308 buildings will be at least moderately damaged. HAZUS also estimates those displaced people that will require accommodations in temporary public shelters. The model estimates 652 households will be displaced due to the flood. Displacement includes households evacuated from within or very near to the inundated area. Of these, 1,102 people (out of a total population of 18,991) will seek temporary shelter in public shelters.

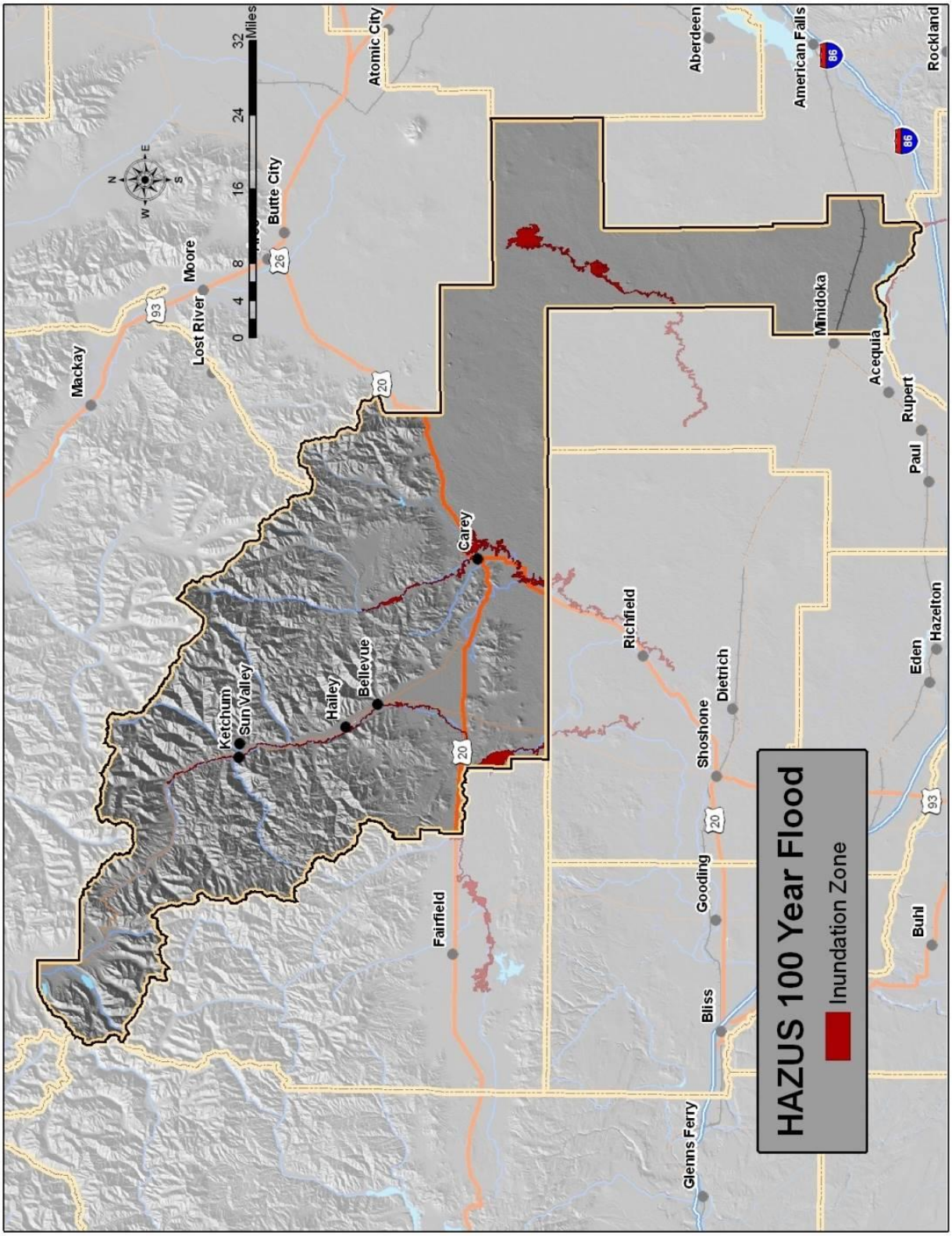
The total economic loss estimated for the flood is $71.35 million dollars, which represents 6.77 % of the total replacement value of the scenario buildings.

500 Year Event

HAZUS estimates that there are 13,023 buildings in the region which have an aggregate total replacement value of $1,997 million (2006 dollars). HAZUS estimates that about 339 buildings will be at least moderately damaged. This is over 67% of the total number of buildings in the scenario.

HAZUS estimates the number of households that are expected to be displaced from their homes due to the flood and the associated potential evacuation. HAZUS also estimates those displaced people that will require accommodations in temporary public shelters. The model estimates 700 households will be displaced due to the flood. Displacement includes households evacuated from within or very near to the inundated area. Of these, 1,200 people (out of a total population of 18,991) will seek temporary shelter in public shelters.

The total building-related losses were $77.25 million dollars. The residential occupancies made up 74.60% of the total loss.



HAZUS 100 Year Floodplain

Hazard Evaluation

Repetitive Loss –City of Hailey has two repetitive flood loss properties.

River/Stream Flooding		
Profile Category	**Rating**	**Description**
Historical Occurrence	3	High
Probability	4	High
Vulnerability	3	Critical
Spatial Extent	3	Limited
Magnitude	3	Critical
Total	**16**	**High**

FLASH FLOOD

Description

Flash flood is defined by NWS as, "A rapid and extreme flow of high water into a normally dry area, or a rapid water level rise in a stream or creek above a predetermined flood level, beginning within six hours of the causative event (e.g., intense rainfall, dam failure, ice jam). Ongoing flooding can intensify to flash flooding in cases where intense rainfall results in a rapid surge of rising flood waters." Flash floods differ from floods (discussed below under River Flooding) in the rapidity with which they develop. Floods generally develop over a period of several days, providing more warning time and time for preparation and evacuation. Flash floods occur with little or no warning. They may occur during thunderstorms due to rapid runoff from steep terrain, from areas where the soil is already saturated, or in urban areas where vegetation has been removed and pavement has replaced exposed soil. Flash floods may also arise as the result of dam failure (discussed below), or the breakup of ice jams.

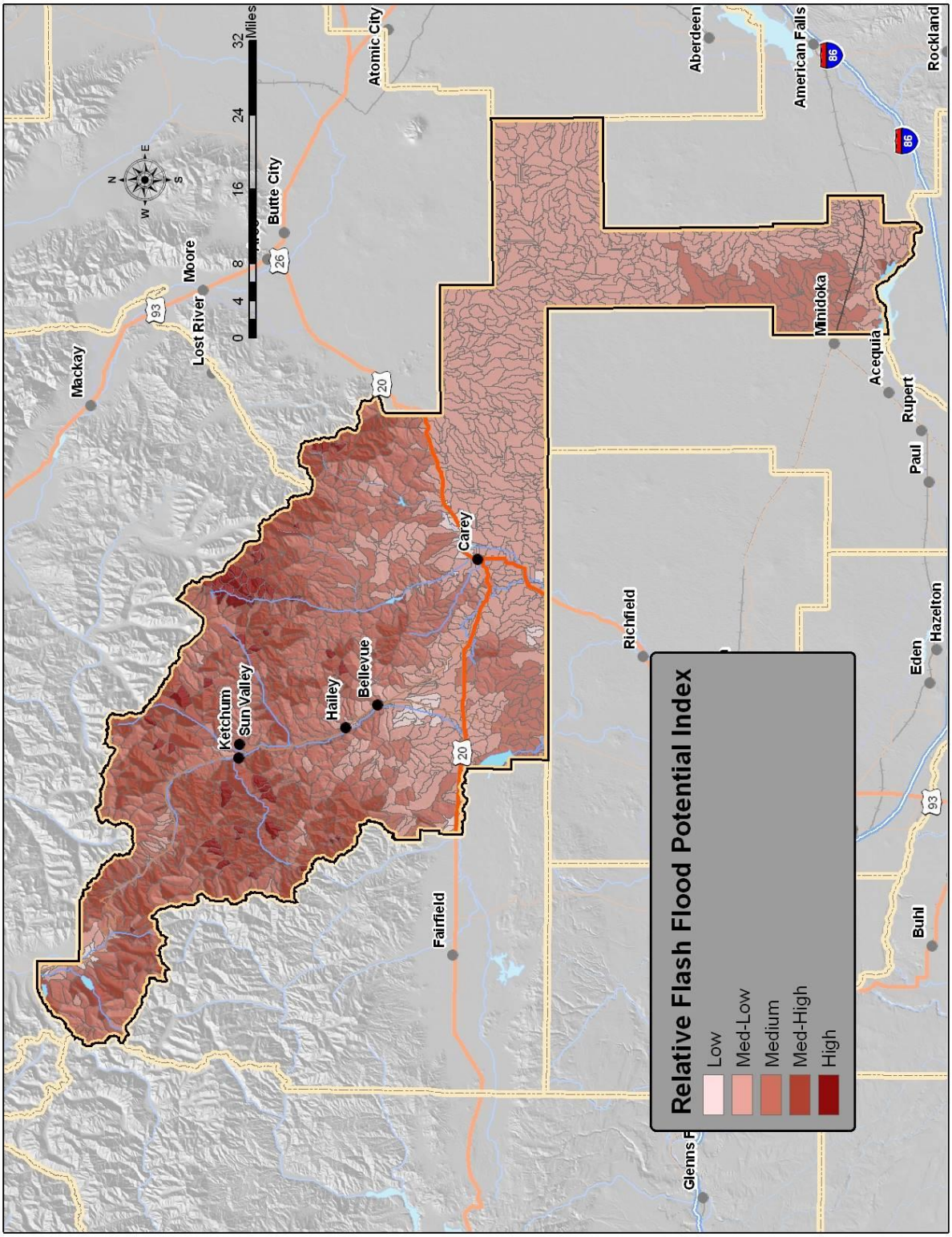
Historical Frequencies

There is a lack of reporting of flash floods. Many times this is due to localized personal damage, rather than a widespread costly disaster. For this reason high precipitation events (.75 inches or more in a 24 hour period) are used for the frequency of potential flash floods. The return interval for Ketchum is captured in the following table. Heavy precipitation events can be expected to occur multiple times in Blaine County each year.

Heavy Precipitation Events			
Location	**No. of Events**	**No. of Years**	**Return Interval**
Ketchum	87	25	0.29 years

Precipitation over 0.75 inches in a 24 hour period

The following figure shows the relative flash flood potential for each basin in Blaine County. This map demonstrates an aggregation of soil infiltration rates, slope, landcover, and canopy density.



Relative Flash Flood Potential Index

Significant Flash Flood Events 2000 -1014
Source – NOAA NCDC Storm Event Database

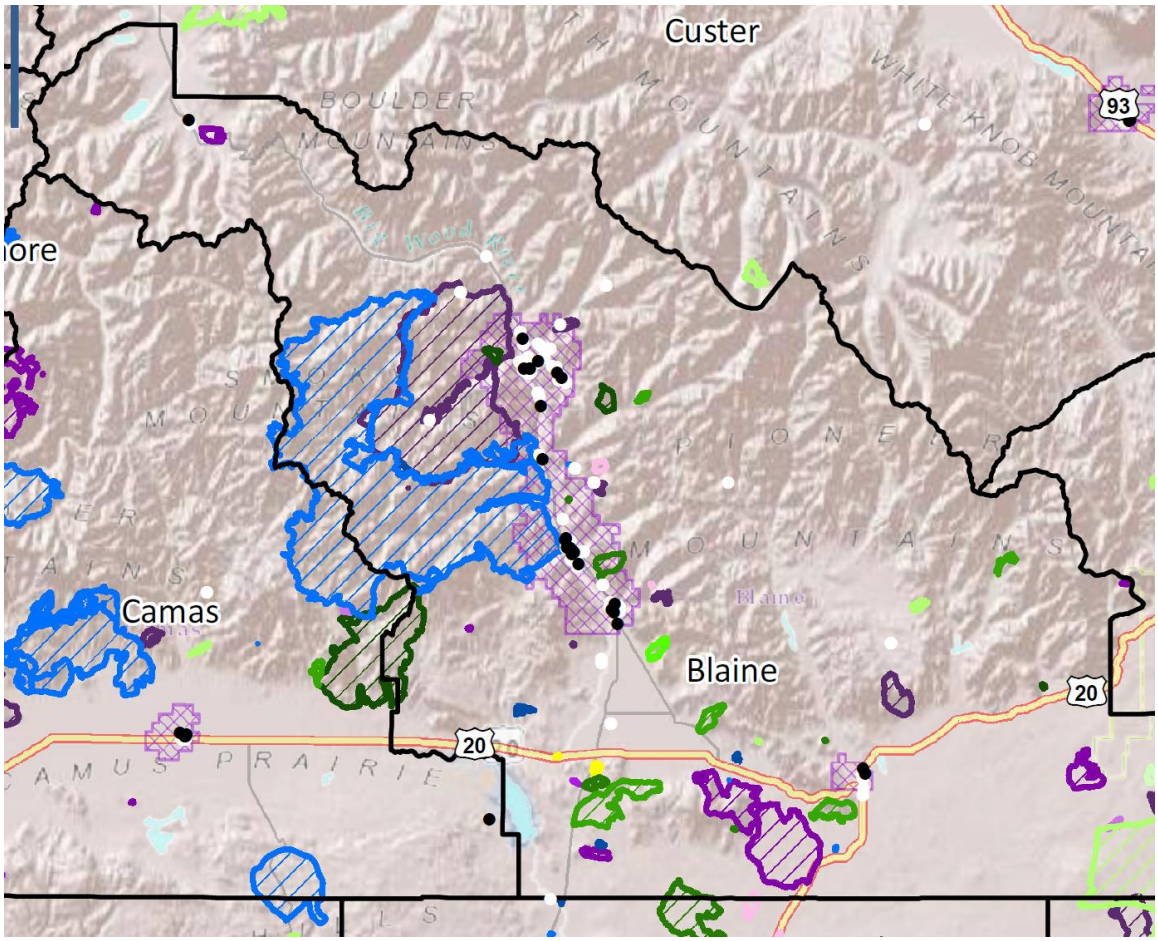
Event	Date	Description
Flash Flood	9/5/2007	Heavy rain caused mud slides on Warm Springs Road near Ketchum.
Flash Flood	7/22/2008	The Galena Lodge deck was completely submerged with water.
Flash Flood	6/5/2009	Heavy rain caused mudslide on Warm Springs Road at the Castle rock Burn site as reported by the Blaine County Sheriff.
Flash Flood	6/14/2009	
Flash Flood	6/17/2009	One inch of rain fell in a 20 minute period over the Castle Rock burn area causing mud and debris to flow over Warm Springs Road.
Flash Flood	7/3/2009	Heavy rain from a thunderstorm caused a mudslide over the Castle Rock burn area causing Warm Springs Road to be closed. The mud was 2 feet deep and 30 feet wide on the road.
Flash Flood	9/2/2013	Rainfall amounts up to 1 inch in one hour caused debris flow in the Timber Gulch area and in the Greenhorn area near Hailey. The rains over the Beaver Creek fire burn scar contributed to the flooding.

Impacts

Because flash floods develop so rapidly, people on foot or in automobiles may be stranded, or may be swept away and injured or drowned. They are characterized by high velocity water flow and large amounts of debris, both of which cause damage to or destroy structures and other objects in their path. Other impacts are discussed below under River Flooding.

Flash Flooding is of concern in those areas which have been burned during wildfires. Flash Flooding has caused mudslides in those areas burned during the Castle Rock Fire and the Beaver Creek Fire. The figure on the following page outlines those areas of concern for potential land or mudslides due to fire damage.

06/14/2009



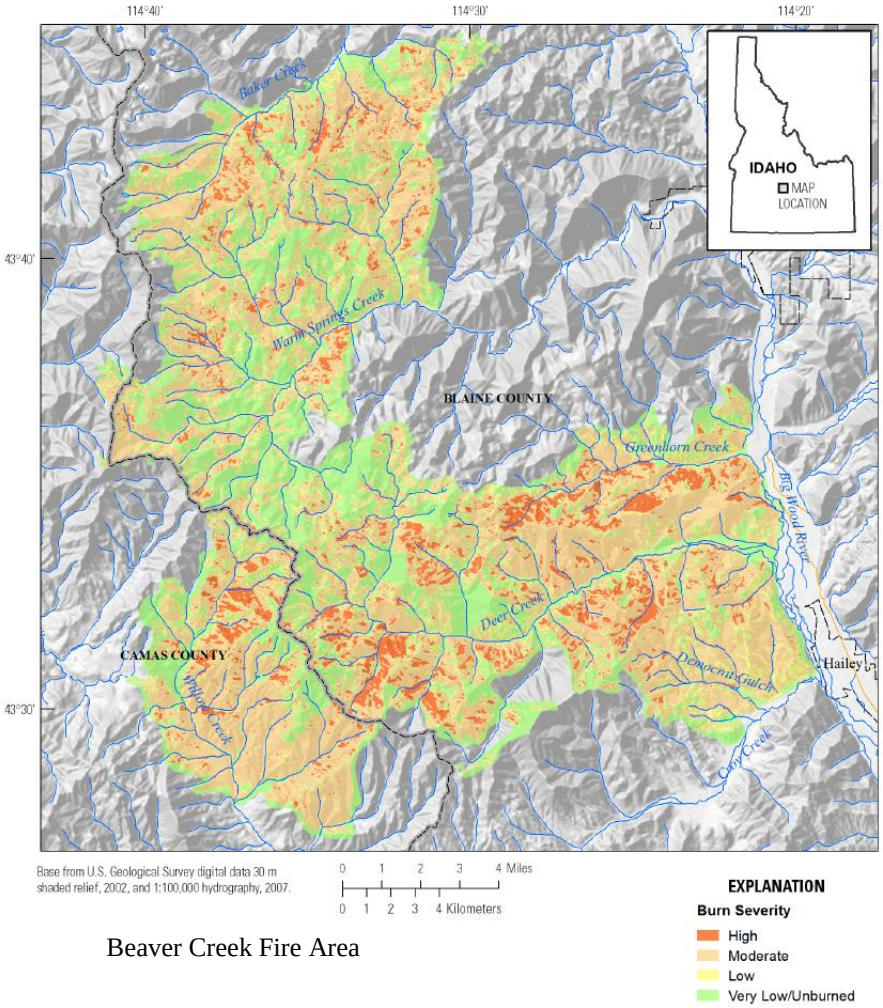
Debris Flow Summary – Beaver Creek Fire

The assessment characterized the post-fire debris-flow hazards that may exist within and downstream of the 2013 Beaver Creek fire near Hailey, Idaho. Geospatial data related to topography, burn severity, soil properties, and storm intensity was used to estimate the probability and volume of debris flows that may occur in response to a 2-year, 10-year, and 25-year recurrence interval rainstorm as well as a combined relative hazard ranking.

The probability of debris flow occurrence is highest in the eastern part of the Willow Creek watershed, the southern part of the Greenhorn Creek watershed, most of the Deer Creek watershed, the Democrat Gulch subwatershed, and a couple of drainages in the Baker Creek watershed. Probabilities of debris flow occurrence were low for most of the Warm Springs Creek watershed except for a basin in the Thompson Creek subwatershed. The probability of debris-flow occurrence increased with each increase in storm intensity with the highest probability at 78 percent for a basin in Willow Creek watershed. It is important to consider the stream segment probabilities as well because the basin probability value is derived from the basin outlet. Many basins have lower or more importantly higher probability values for stream segments within a basin compared to the outlet. These are areas within a basin where a debris flow might occur even though not likely at the outlet. Like the probability of debris-flow occurrence, the volume estimates

increase with the increase in storm intensity, however, at a reduced rate. Estimates of debris-flow volume were highest in two basins in the Willow Creek watershed, the headwaters basin in the Baker Creek watershed, and the Thompson Creek subwatershed in the Warm Springs Creek watershed. These basins are not coincident with the high probability basins.

Unlike the probability stream segment analysis, the volume estimates for stream segments does not vary much within a basin. The volume estimates tend to increase in a downstream direction. Because many of the high probability and volume basins do not overlap, there are no combined hazard rankings with a high value of 5. Hazard rankings primarily are elevated in the eastern part of the Willow Creek watershed, the downstream part of the Deer Creek watershed, a couple basins in the Baker Creek watershed, and the Thompson Creek subwatershed within the Warm Springs Creek watershed. These areas indicate a significant possibility of debris-flow impact to homes, buildings, roads, bridges, and culverts that may be located both within and downstream of these basins.[18]



Beaver Creek Fire Area

[18]Post-Fire Debris-Flow Hazard Assessment of the Area Burned by the 2013 Beaver Creek Fire near Hailey, Central Idaho, Kenneth D. Skinner, 2013

Loss Estimates

A GIS overlay operation was used to determine the number and value of land parcels that lie within basins with a medium-high to a high flash flood potential. The following table represents the results of that analysis:

Hazard	Value of Affected Parcels
Flash Flood	$832,135,585

The damage to improvements in the high potential area, if the entire area was involved in a 1 foot depth flash flood would be $7,489,220. Damage to contents would be $11,233,830. The total at risk value is $18,723,050. (Calculated using FEMA How-to Guide #2, page 4-13)[19]

Hazard Evaluation

Flash Flooding		
Profile Category	**Rating**	**Description**
Historical Occurrence	3	High
Probability	4	High
Vulnerability	3	Critical
Spatial Extent	2	Limited
Magnitude	2	Limited
Total	**14**	**Medium**

[19] http://www.iema.illinois.gov/planning/Documents/Plan_FEMA_HTG2.pdf

DAM FAILURE

Description

Dam failure is the unintended release of impounded waters. Dams can fail for one or a combination of the following reasons:

- Overtopping caused by floods that exceed the capacity of the dam
- Deliberate acts of sabotage
- Structural failure of materials used in dam construction
- Poor design and/or construction methods
- Movement and/or failure of the foundation supporting the dam
- Settlement and cracking of concrete or embankment dams
- Piping and internal erosion of soil in embankment dams
- Inadequate maintenance and upkeep

Failures may be categorized into two types; component failure of a structure that does not result in a significant reservoir release, and uncontrolled breach failure that lead to a significant release. With an uncontrolled breach failure of a manmade dam there is a sudden release of the impounded water, sometimes with little warning. The ensuing flood wave and flooding have enormous destructive power. The Idaho Department of Water Resources (IDWR) is responsible for dam safety in this State. The program is described as follows (from the "Dam Safety Program," IDWR web site)[20]:

Dams 10 feet or higher or which store more than 50 acre feet of water are regulated by the Idaho Department of Water Resources (as are mine tailings impoundment structures). Idaho currently has 546 water storage dams and 21 mine tailings structures that are regulated by IDWR for safety. The Dam Safety Section inspects these dams or tailing structures every other year unless one has a particular problem. Copies of all inspection reports for each of the dams and tailing structures are available at the IDWR State Office in Boise. Inspection reports are also available at the four IDWR Regional Offices for dams and tailing structures located in their specific regions.

Dam Classifications

Each dam inspected by Idaho Water Resources is given both a size and risk classification.

Size Classification

Small – 3: Twenty (20) feet high or less and a storage capacity of less than one hundred (100) acre feet of water.

Intermediate – 2: More than twenty (20) but less than forty (40) feet high or with a storage capacity of one hundred (100) to four thousand (4,000) acre feet of water.

[20] http://www.idwr.state.id.us/water/stream_dam/dams/dams.htm

Large – 1: Forty (40) feet high or more or with a storage capacity of more than four thousand (4,000) acre feet of water.

Risk Classification

This classification is used by IDWR to classify potential losses and damages anticipated in down-stream areas that could be attributable to failure of a dam during typical flow conditions.

Low Risk – 3: No permanent structures for human habitation; Minor damage to land, crops, agricultural, commercial or industrial facilities, transportation, utilities, or other public facilities or values.

Significant Risk – 2: No concentrated urban development, one (1) or more permanent structures for human habitation which are potentially inundated with flood water at a depth of two (2) ft. or less or at a velocity of two (2) ft. per second or less. Significant damage to land, crops, agricultural, commercial or industrial facilities, loss of use and/or damage to transportation, utilities, or other public facilities or values.

High Risk – 1: Urban development, or any permanent structure for human habitation which are potentially inundated with flood water at a depth of more than two (2) ft., or at a velocity of more than two (2) ft. per second. Major damage to land, crops, agricultural, commercial or industrial facilities, loss of use and/or damage to transportation, utilities, or other public facilities or values.

Purposes Categories:

N-Industrial, B-Mining, O-Other, C-Commercial, P-Power, D-Domestic, Q-Fire Protection, E-Erosion Control, F-Flood Control, S-Stockwater, G-Wildlife Protection, T-Mine Tailings, H-Fish Propagation, I-Irrigation, J-Stockwater and Irrigation, K-Domestic, Stock and Irrigation, L-Domestic and Irrigation, M-Municipal Supply

Dam Type

Earth- Earth Fill, Rock- Rock Filled, CNGRV- Concrete Gravity, CNAR-Concrete Arch, MCNAR-Multiple Concrete Arch, TMCRB-Timber Crib, SLBT-lab and Buttress, RKMAS- Rock Masonry, Metal-Metal Sheet Pile, AUXDAM-Auxillary Dam

Name	Stream	Purpose	Risk Category	Size Category	Type	Storage Capacity (Acre Ft.)	Height (Ft.)
Trail Creek	Trail Creek	HR	1	3	TMCRB	81	18
Stanislaw Waterski Lake	Big Wood River (OS)	IR	2	3	EARTH	70	10
Magic	Big Wood River	IP	1	1	EARTH	191,500	113
Campbell	TR-Little Wood River	J	3	2	EARTH	550	13.3

Name	Stream	Purpose	Risk Category	Size Category	Type	Storage Capacity (Acre Ft.)	Height (Ft.)
Sonner	Canyon Creek	SG	3	2	EARTH	300	7
Little Wood	Little Wood River	I	1	1	EARTH	30,000	117
Quigley Creek	Quigley Creek	I	3	3	EARTH	20	12
Gimlet	TR-Big Wood River	A	2	3	EARTH	16	19.9
Indian Creek	Indian Creek	I	2	3	EARTH	19	14
Fish Creek	Fish Creek	I	1	1	MCNAR	12,743	88

Dams in Blaine County

Source http://www.idwr.idaho.gov/water/stream_dam/dams/Dams.pdf

Historical Frequencies

There has been one recorded dam failure in Blaine County. On April 26, 1982 two small earthen dams collapsed under high spring runoff, flooding the area around Carey with two feet of water. 100 acres of farmland and over 24 homes and businesses were flooded, and bridge abutments had to be shored up after floodwaters ate away part of the stream bank[21]. It is also reported that the Quigley Dam failed in the early to mid-1960's which impacted the City of Bellevue; losses were not given for the event[22].

Impacts

A failure of Little Wood River Dam would cause flooding in the Carey area.

Loss Estimates

A failure on the Little Wood River Dam would have devastating consequences in Blaine County and the City of Carey. According to the Bureau of Reclamation maps, there would only be 1.6 hours of warning time before the first flood wave reached the City of Carey. The following loss estimates were derived from a GIS overlay of the inundation zone and the County parcel layer. There is a total of 823 land parcels in the inundation zone with a combined market value of $27,593,399.

Assuming a 2 foot average flood depth the loss to structures in the inundation zone would be $5,647,058 the contents loss would be $8,278,019 for a total estimated loss of $13,925,077. (Calculated using FEMA How-to Guide #2, page 4-12[23])

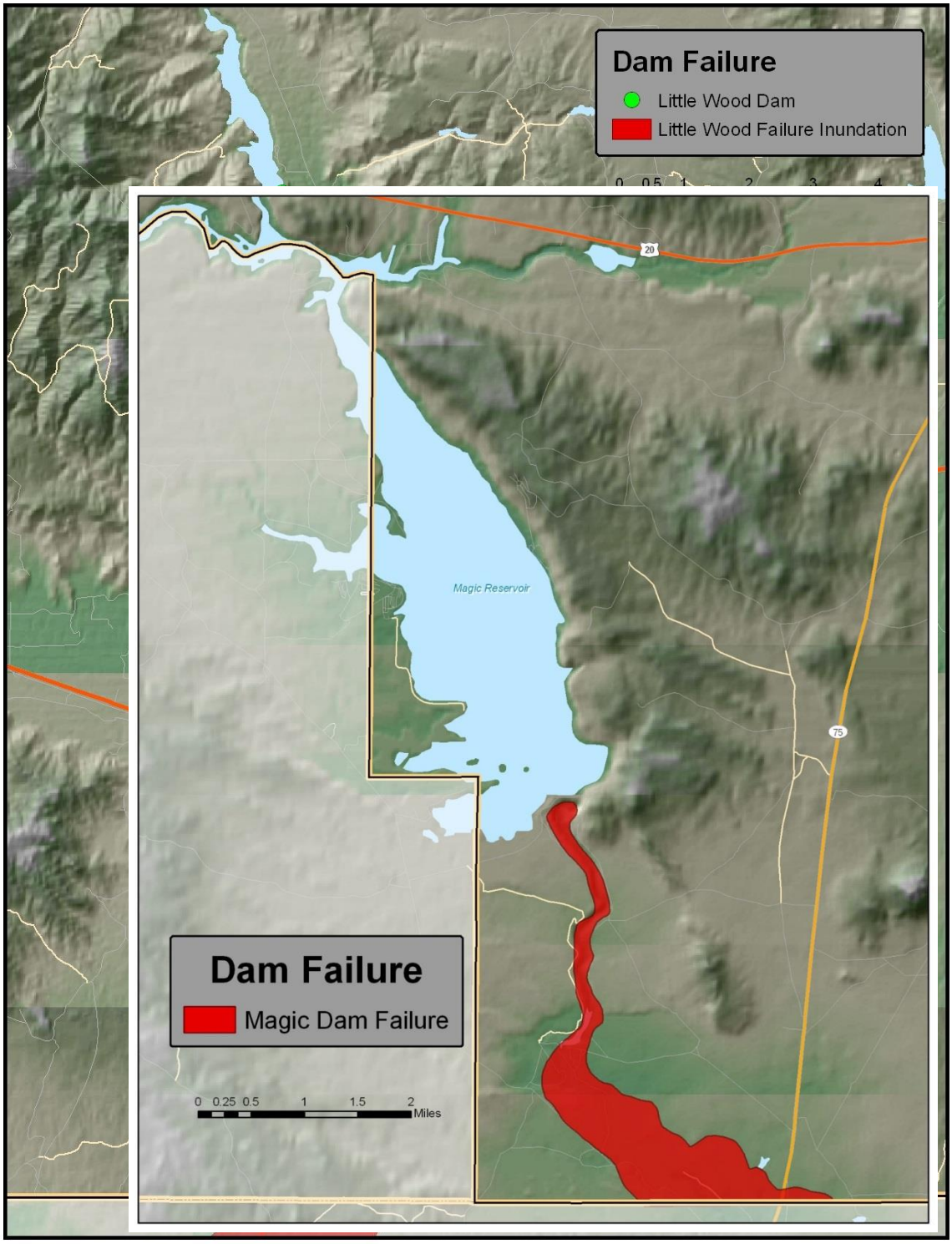
[21] Idaho Statesman 3/1/1986
[22] Recollection by the P&Z Administrator
[23] http://www.iema.illinois.gov/planning/Documents/Plan_FEMA_HTG2.pdf

Hazard Evaluation

Little Wood Dam Map

Dam Failure		
Profile Category	**Rating**	**Description**
Historical Occurrences	1	Low

Failure Inundation



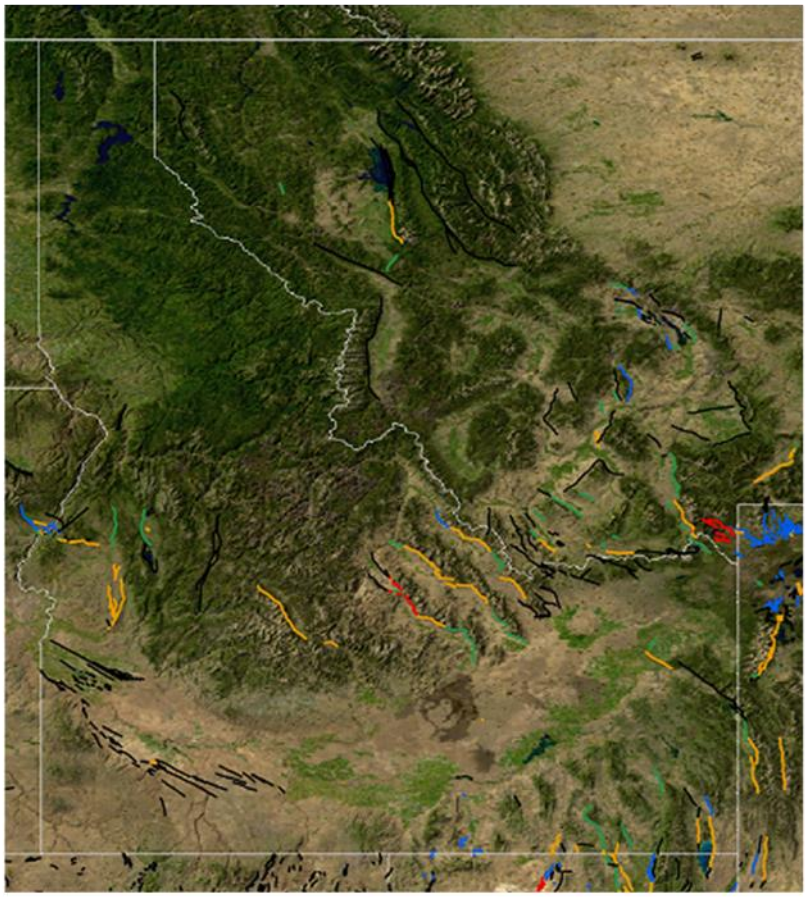
Magic Dam Failure Inundation Map

GEOLOGIC HAZARDS

Geologic hazards are adverse conditions capable of causing loss of life and damage to property that involve the movement of geologic features or elements of the surface of the earth. There are a wide variety of such hazards that may be categorized as either sudden or slow phenomena. Slowly developing geologic hazards include soil erosion, sinkholes and other ground subsidence, and migrating sand dunes. Only sudden geologic hazards will be considered in this planning and will be limited to: earthquake, landslide/mudslide, and snow avalanche.

EARTHQUAKE

Description



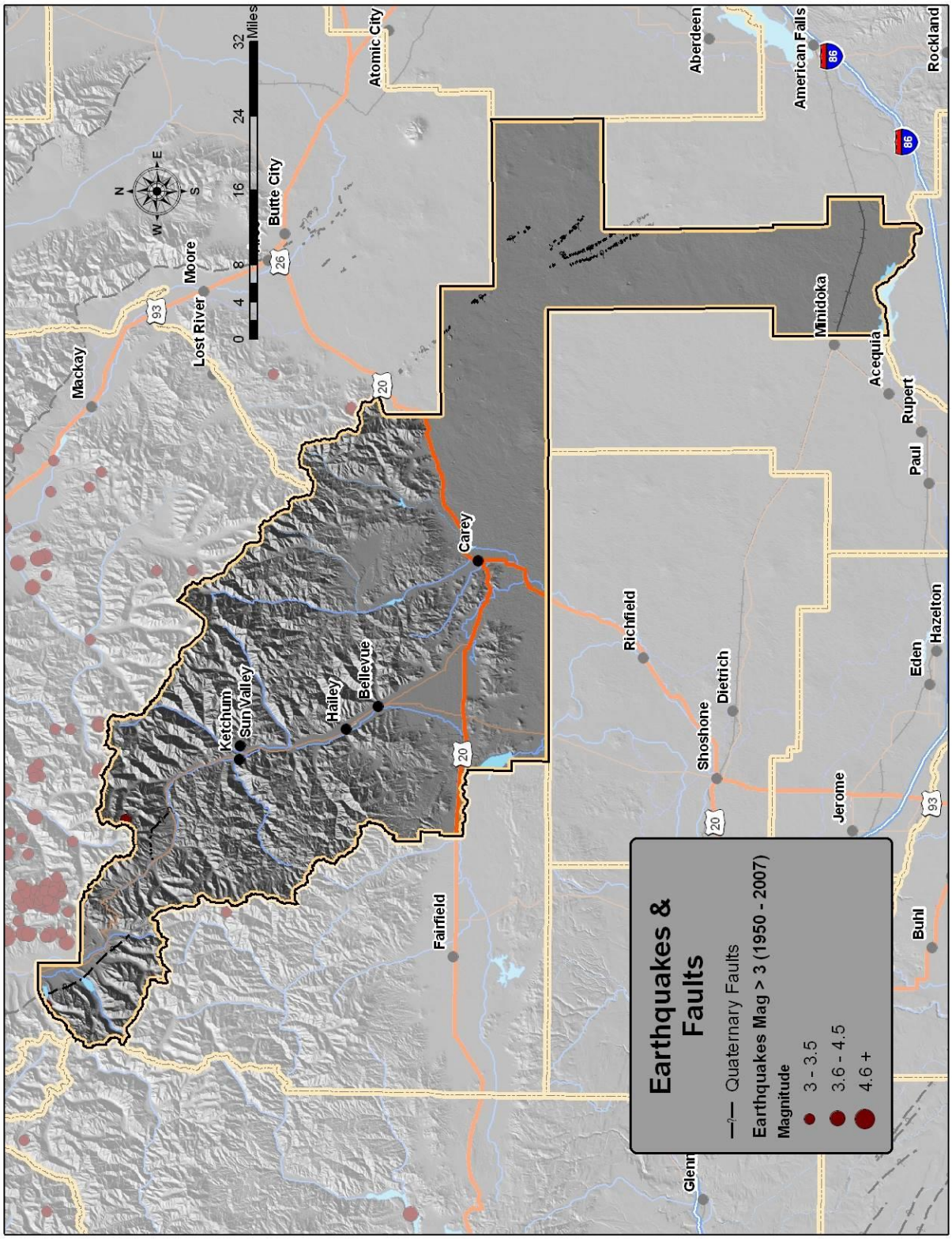
Idaho Faults Map

The U.S. Geological Survey (USGS) defines earthquake as: "Ground shaking caused by the sudden release of accumulated strain by an abrupt shift of rock along a fracture in the Earth or by volcanic or magmatic activity, or other sudden stress changes in the Earth." The hazards associated with earthquake are essentially secondary to ground shaking (also called seismic waves) which may cause buildings to collapse, displacement or cracking of the earth's surface, flooding as a result of damage to dams or levees, and fires from ruptured gas lines, downed power lines and other sources. Earthquakes cause both vertical and horizontal ground shaking which varies both in amplitude (the amount of displacement of the seismic waves) and frequency (the number of seismic waves per unit time), usually lasting less than thirty seconds. Earthquakes are measured both in terms of their inherent "magnitude" and in terms of their local "intensity."

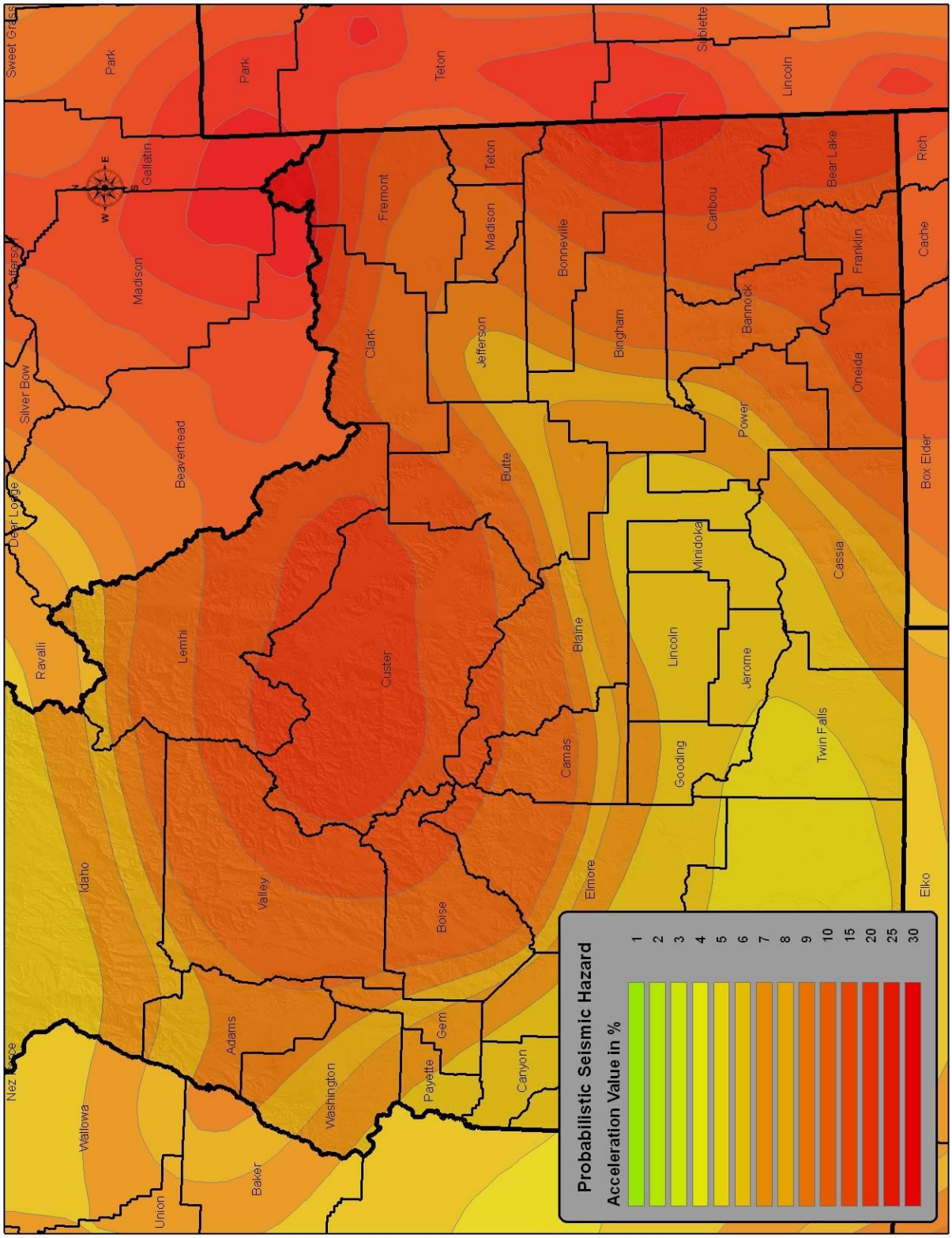
The magnitude of an earthquake is essentially a relative estimate of the total amount of seismic energy released and may be expressed using the familiar "Richter Scale" or using the "moment magnitude scale" now favored by most technical authorities. Both the Richter Scale and the moment magnitude scale are based on logarithmic formulae

meaning that a difference of one unit on the scales represents about a thirty-fold difference in amount of energy released (and, therefore, potential to do damage). On either scale, significant damage can be expected from earthquakes with a magnitude of about 5.0 or higher. What determines the amount of damage that might occur in any given location, however, is not the magnitude of the earthquake but the intensity at that particular place. Earthquake intensity decreases with distance from the earthquake's "epicenter" (its focal point), but also depends on local geologic features such as depth of sediment and bedrock layers. Intensity is most commonly expressed using the "Modified Mercalli Intensity Scale." This measure describes earthquake intensity on an arbitrary, descriptive, twelve degree scale (expressed as Roman numerals from I to XII) with significant damage beginning at around level VII. Mercalli intensity is assigned based on eyewitness accounts. More quantitatively, intensity may be measured in terms of "peak ground acceleration" (PGA) expressed relative to the acceleration of gravity (g) and determined by seismographic instruments.

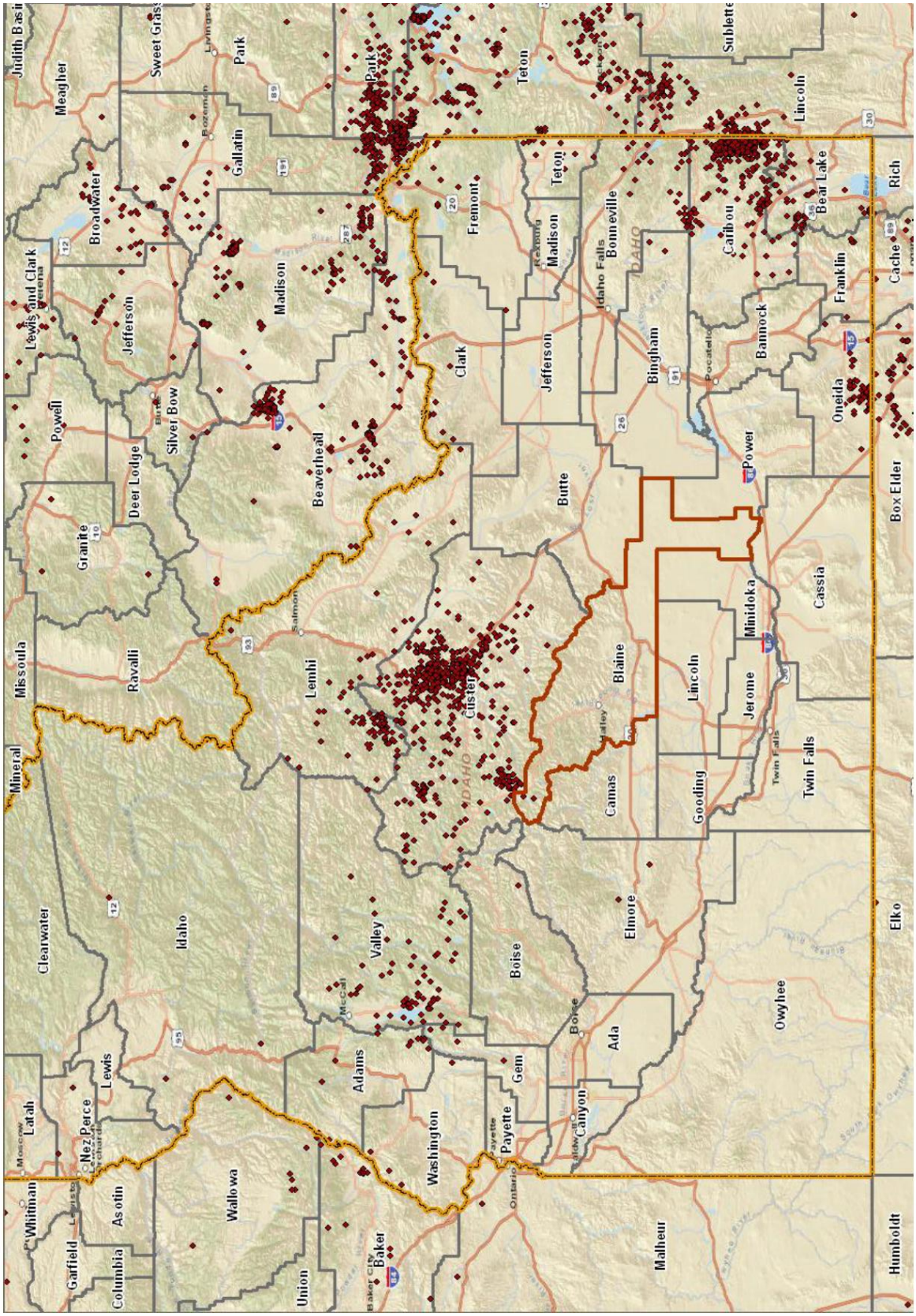
While Mercalli and PGA intensities are arrived at differently, they correlate reasonably well. While the locations most susceptible to earthquakes are known, there is little ability to predict an earthquake in the short term.



Earthquakes and Quaternary Faults



Blaine County Seismic Potential Map



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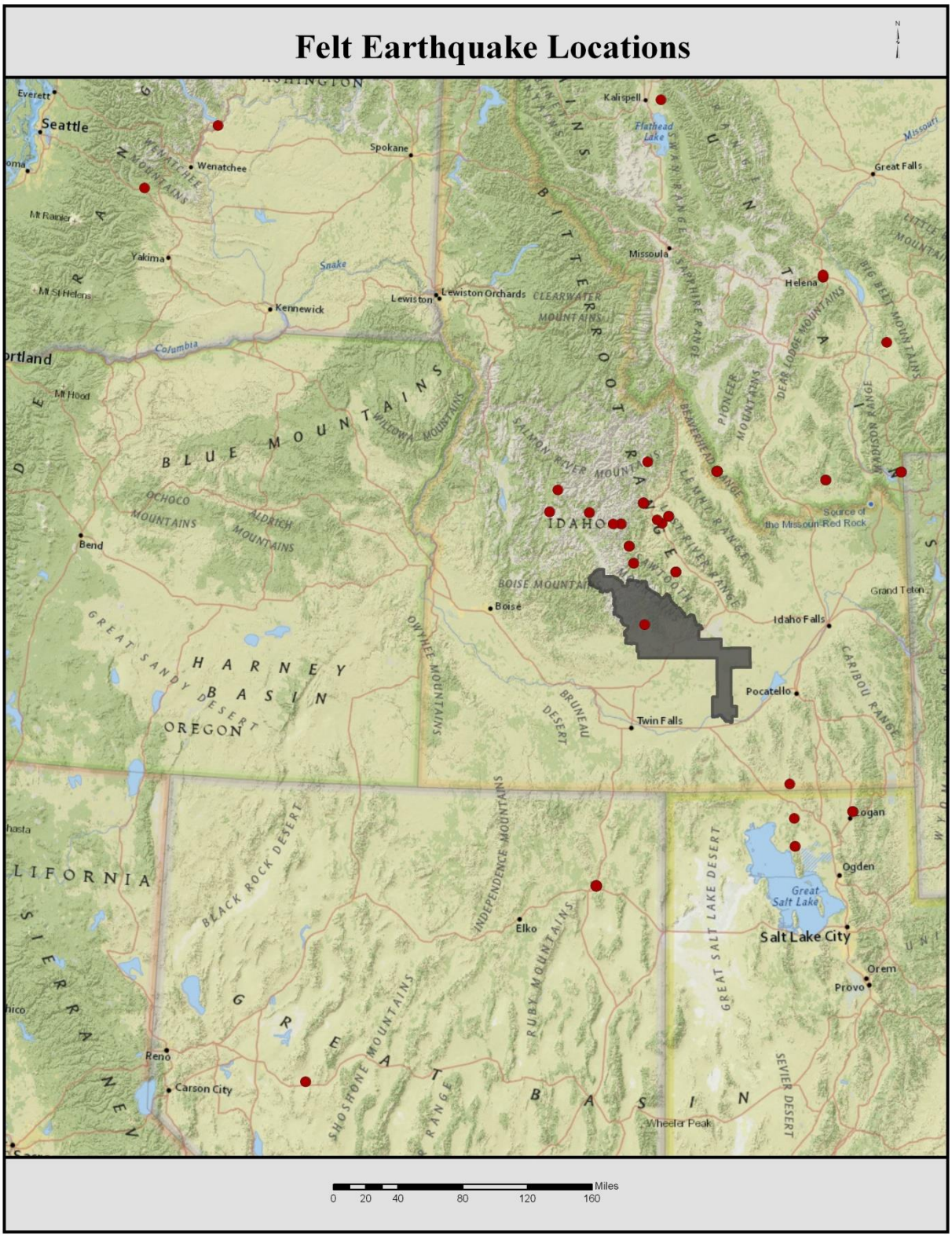

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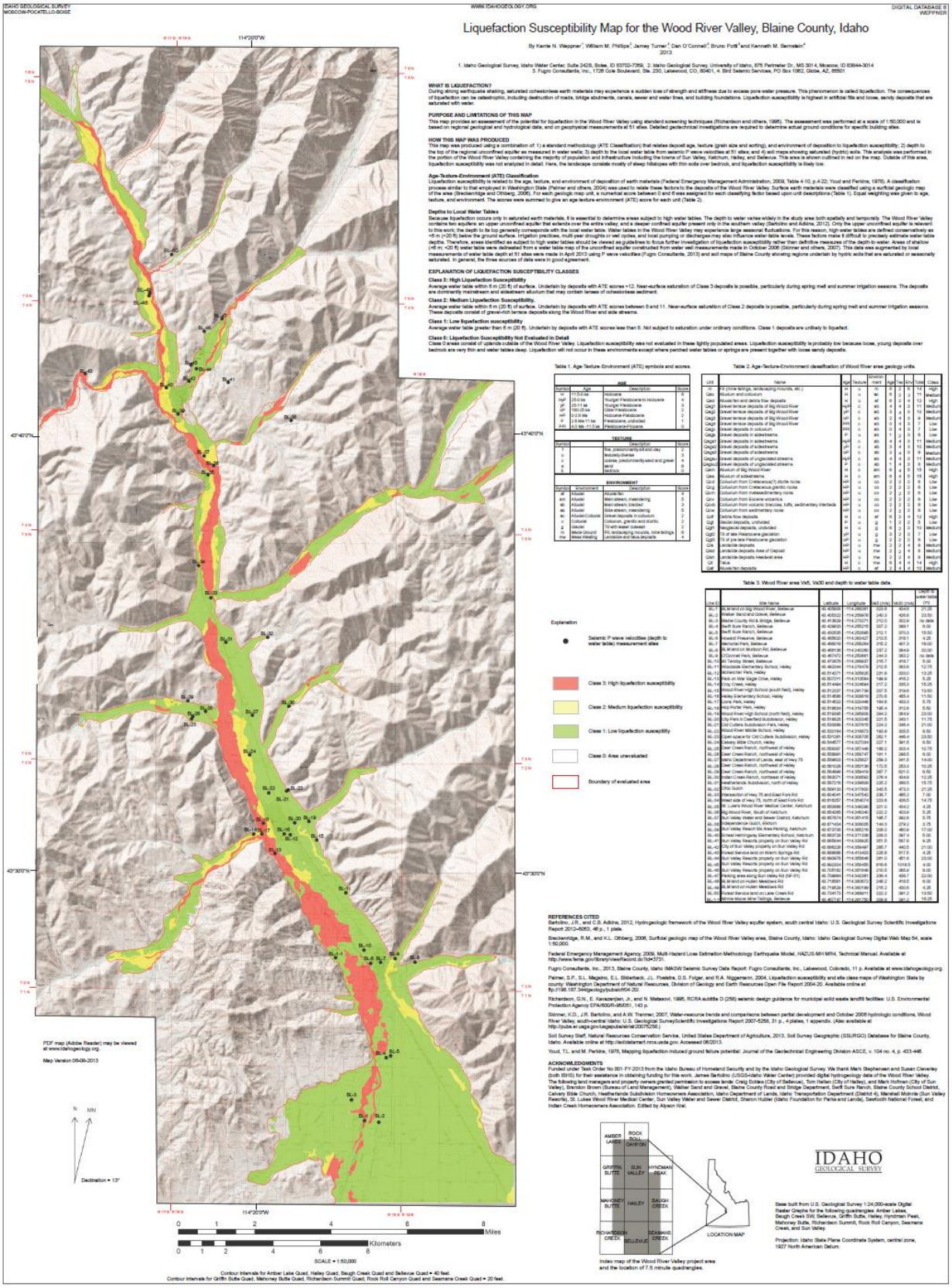
Historical Frequencies

The following table lists earthquakes that have been felt in Blaine County from 1916 to 2014. There have been 47 earthquakes felt in Blaine County over a period of 98 years. There is a 47.9% chance of an earthquake felt in Blaine County, and a reoccurrence interval of 2.1 years. It should be noted that only 1 of the earthquakes felt in Blaine County had an epicenter in the County.

Date						***Earthquake Parameters***	***Felt Report Parameters***			
Year	Mo	Dy	Hr	Mn	Sec	Mag	City Name	State	Country	Epicenter Distance
1916	9	10	2	57			HAILEY	ID	USA	
1925	6	28	1	21	6	6.8	HAILEY	ID	USA	369
1934	3	12	15	5	40	6.6	HAILEY	ID	USA	269
1934	3	12	15	5	40	6.6	BELLEVUE	ID	USA	261
1934	3	12	18	20	13	6	BELLEVUE	ID	USA	238
1935	10	19	4	48	3	6.3	HAILEY	ID	USA	387
1935	10	31	18	37	49	6	HAILEY	ID	USA	389
1944	7	12	19	30	23	6.1	HAILEY	ID	USA	144
1944	7	12	19	30	23	6.1	KETCHUM	ID	USA	128
1945	2	14	3	1	15	6	HAILEY	ID	USA	157
1947	11	23	9	46	5	6.3	HAILEY	ID	USA	229
1947	11	23	9	46	5	6.3	KETCHUM	ID	USA	222
1954	12	16	11	7	13	7.1	HAILEY	ID	USA	568
1956	8	7	4	5	52		SUN VALLEY	ID	USA	103
1956	8	7	4	5	52		KETCHUM	ID	USA	104
1959	8	18	6	37	15	7.1	HAILEY	ID	USA	295
1959	8	18	6	37	15	7.1	SUN VALLEY	ID	USA	290
1959	8	18	6	37	15	7.1	KETCHUM	ID	USA	291
1962	8	30	13	35	28.7	5.7	HAILEY	ID	USA	280
1962	8	30	13	35	28.7	5.7	SUN VALLEY	ID	USA	296
1962	8	30	13	35	28.7	5.7	BELLEVUE	ID	USA	273
1962	8	30	13	35	28.7	5.7	KETCHUM	ID	USA	296
1963	1	27	15	24	47.2		HAILEY	ID	USA	100
1963	1	27	15	24	47.2		KETCHUM	ID	USA	82
1963	9	11	2	8	44.8	4.9	KETCHUM	ID	USA	84

Date						***Earthquake Parameters***	***Felt Report Parameters***			
Year	Mo	Dy	Hr	Mn	Sec	Mag	City Name	State	Country	Epicenter Distance
1969	4	26	10	41	53	4.9	HAILEY	ID	USA	77
1969	4	26	10	41	53	4.9	SUN VALLEY	ID	USA	57
1969	4	26	10	41	53	4.9	BELLEVUE	ID	USA	84
1969	4	26	10	41	53	4.9	KETCHUM	ID	USA	58
1969	5	3	9	30			KETCHUM	ID	USA	
1975	3	28	2	31	5.7	6.1	HAILEY	ID	USA	216
1978	10	29	13	46	44.5	5	HAILEY	ID	USA	160
1983	10	28	14	6	6.5	7.3	HAILEY	ID	USA	59
1983	10	28	14	6	6.5	7.3	SUN VALLEY	ID	USA	40
1983	10	28	14	6	6.5	7.3	BELLEVUE	ID	USA	64
1983	10	28	14	6	6.5	7.3	KETCHUM	ID	USA	49
1983	12	12	4	55	36.5	4.5	KETCHUM	ID	USA	83
1984	1	24	21	7	57.5	4.6	HAILEY	ID	USA	59
1984	8	22	9	46	30.2	5.8	HAILEY	ID	USA	108
1984	9	8	6	16	40.1	5	HAILEY	ID	USA	103
1984	8	22	9	46	30.2	5.8	SUN VALLEY	ID	USA	86
1984	8	22	9	46	30.2	5.8	BELLEVUE	ID	USA	115
1984	1	24	21	7	57.5	4.6	KETCHUM	ID	USA	41
2005	10	31				5	KETCHUM	ID	USA	
2008	2	21				6	HAILEY	ID	USA	
2014	4	10				4	HAILEY	ID	USA	



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Impacts

Earthquakes are capable of catastrophic consequences, especially in urban areas. Worldwide, earthquakes have been known to cost thousands of lives and enormous economic and social losses. In minor earthquakes, damage may be done only to household goods, merchandise, and other building contents and people are occasionally injured or killed by falling objects. More violent earthquakes may cause the full or partial collapse of buildings, bridges and overpasses, and other structures. Fires due to broken gas lines, downed power lines, and other sources are common following an earthquake and often account for much of the damage. Economic losses arise from destruction of structures and infrastructure, interruption of business activity, and innumerable other sources. Utilities may be lost for long periods of time and all modes of transportation may be disrupted. Disaster Services, including medical, may be both disabled and overwhelmed. In addition to broken gas lines, other hazardous materials may be released.

Loss Estimates

HAZUS was used to estimate losses for a probabilistic magnitude 7 earthquake that affects Blaine County. The model estimates that about 84 buildings will be at least moderately damaged. This is over 1.00 % of the total number of buildings in the region. There are an estimated 0 buildings that will be damaged beyond repair.

HAZUS estimates the number of households that are expected to be displaced from their homes due to the earthquake and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 1 household to be displaced due to the earthquake. Of these, 0 people (out of a total population of 18,991 will seek temporary shelter in public shelters.

The total building-related losses were $3.88M (millions of dollars); 18 % of the estimated losses or $.71M was related to the business interruption of the region. Total loss to structures is estimated to be $3.17M. By far, the largest loss was sustained by the residential occupancies which made up over 66 % of the total loss.

HAZUS estimates that there will be a $1.7M loss to the transportation systems.

Hazard Evaluation

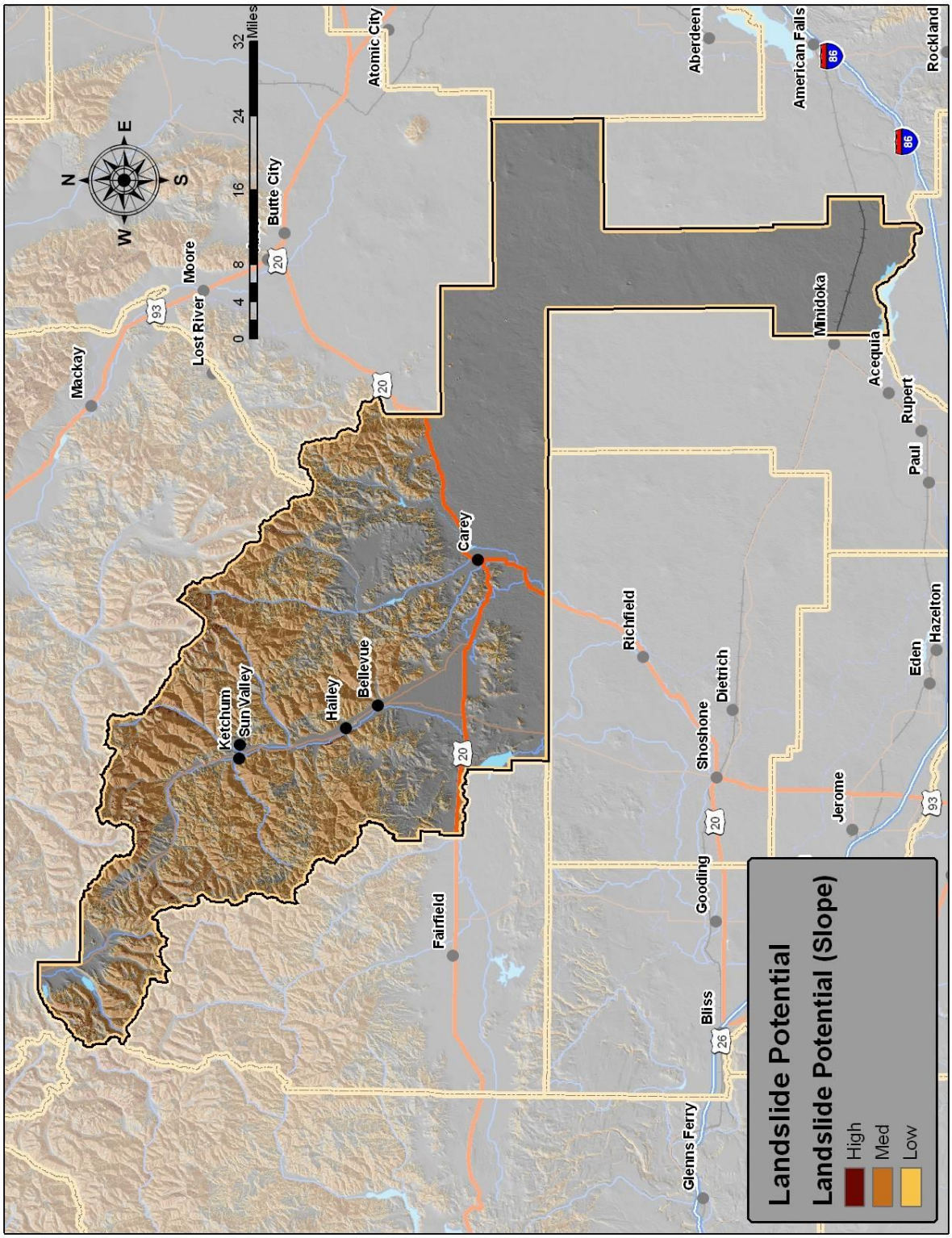
Earthquake		
Profile Category	**Rating**	**Description**
Historical Occurrence	2	Medium
Probability	3	Medium
Vulnerability	3	Critical
Spatial Extent	2	Limited
Magnitude	2	Limited
Total	**12**	**Medium**

LANDSLIDE/MUDSLIDE

Description

The term "landslide" encompasses several types of occurrence (including mudslides) in which slope-forming materials such as rock and soil move downward under the influence of gravity. Such downward movement may occur as the result of an increase in the weight of slope-forming materials, an increase in the gradient (angle) of the slope, a decrease in the forces resisting downward motion (friction or material strength), or a combination of these factors. Factors that may trigger a landslide include: weather related events such as heavy rainfall (one of the most common contributors), erosion, and freeze-thaw weakening of geologic structures, human causes such as excavation and mining, deforestation, vibration from explosions or other sources, and such geologic causes as earthquake, volcanic activity, and shearing or fissuring. The speed of descent ranges from sudden and rapid to an almost imperceptibly slow creep where effects are only observable over a period of months or years.

2009 Mudslides in the Warm Springs Road area, caused by heavy rain in the areas impacted by the 2007 Castle Rock Wildfire



Blaine County Landslide Potential
Map

Historical Frequencies

Since the Beaver Creek which wildfire occurred in 2013 there have been several reports of damaging mudslides in Blaine County. According to the landslide potential map above, there is a potential for landslides in various parts of the County. The potential for wildfire in these areas exacerbates this hazard. It is apparent that landslides are underreported in Blaine County because the impact doesn't require outside assistance.

Impacts

Photo 3. Upslope chutes carrying water and rocky debris are typical of many of the home sites within Greenhorn Gulch development.

Some of the many direct and indirect impacts of landslides are:

- Human and animal deaths and injuries and resulting productivity losses
- Damage or destruction of structures
- Destruction or blockage of roadways and resulting transportation interruption
- Loss of, or reduced land usage
- Loss of industrial, agricultural, and forest productivity
- Reduced property values in areas threatened by landslide
- Loss of tourist revenues and recreational opportunities
- Damage or destroyed infrastructure and utilities
- Damming or alteration of the course of streams and resulting flooding
- Reduced water quality

Loss Estimate

Losses due to Landslide events are generally tied to the repair of roadways, or the removal of all debris on roadways.

Blaine County has 231.6 miles of roadway that could be potentially impacted or damaged in some manner by landslides. Most of these roads are in the back country. The County estimates that back county replacement value is $750,000 per mile. The total vulnerability based on that estimate would be $173.7 Million; however, landslides are usually considered a local event, and thus it is difficult to predict the actual repair or replacement costs for a single event.

Hazard Evaluation

Mudslides		
Profile Category	**Rating**	**Description**
Historical Occurrence	3	High
Probability	4	High
Vulnerability	3	Critical
Spatial Extent	2	Limited
Magnitude	2	Limited
Total	**14**	**Medium**

SNOW AVALANCHE

Description

Snow avalanches are common in mountainous terrain where heavy snowfall accumulates on steep slopes. Avalanches generally occur on slopes between 30 and 45 degrees with 38 degrees being the "ideal" slope for development of avalanche conditions. They are often categorized as either "loose snow" or "slab" types. While the exact moment of an avalanche cannot be predicted, avalanche conditions are readily recognizable, and avalanches tend to recur on the same slopes year after year.

Historical Frequencies

Place	Date	Details	Reported Damage
Galena Pass	1/5/1996		2 Fatalities
Ketchum	2/10/1996	Possibly a natural trigger that caused several avalanches in the area.	1 Fatality
Sun Valley	1/15/1998	Triggered by skier	1 Injury
Mormon Hills	2/22/1998	Triggered by snowmobile	1 Fatality
Hailey	2/9/1999	Rapid loading, warm temps and high winds	3 houses damaged
Hailey	2/10/1999	Possibly triggered by deer	Snow damaged a picnic shelter, two tables and at least one tree in Heagle Park; killed 20 deer; dammed river near Croy Creek; killed fish in River.
Smokey Mountains	1/28/2000	Triggered by skier	Skier buried, but recovered and uninjured
Apollo Creek	2/28/2004	Triggered by snowmobile	1 Fatality
Galena Summit	3/25/2005	Triggered by skier	1 Injury
Brodie Gulch/Baker Creek	4/1/2005	Triggered by snowmobile	1 Fatality
Antelope Creek	3/1/2006	Triggered by snowmobile	1 Fatality
Apollo Creek	3/10/2007	Triggered by snowmobiler. Avalanche occurred on a northeast facing slope next to a slide that had been triggered the week before	1 Injury
	3/6/2009	1 skier caught, buried, and killed, 1 seriously injured	1 Fatality and 1 Injury
	4/5/2009	Snowmobiler caught, buried, and killed	1 Fatality

Place	Date	Details	Reported Damage
Seattle Ridge on Bald Mountain	1/22/2010	1 skier caught, buried, and killed. An avalanche near the bottom of Fire Trail on Seattle Ridge on Bald Mountain killed a back country skier. The avalanche occurred at approximately 2:30 pm on January 22nd. The man was pronounced dead at 3:31 pm at the Wood River Medical Center	1 Fatality
Smiley Creek	2/16/2014	An avalanche occurred in Blaine County in the Smiley Creek area between Ketchum and Stanley. Four snowmobilers were buried in a meadow area when the avalanche occurred around 2 pm MST. Three of the snowmobilers survived with one fatality occurring.	3 Injuries, 1 Fatality

Impacts

It is common for avalanche impacts to be somewhat limited. Because avalanches usually occur in remote areas, the most frequent victims are recreational users of the slopes on which they occur. Of those who die in avalanches, approximately one third of the deaths are as a result of trauma while the remaining two thirds are from suffocation. Trauma may be the result of being carried into obstructions such as boulders and trees or over cliffs, or from rocks, trees, or large chunks of snow being carried downward at high speed. Avalanches may also damage or destroy structures, break power lines, block roadways and railroads, and damage trees and vegetation.

Loss Estimates

Snow avalanches occur primarily in the back country of Blaine County. As with landslides, losses from snow avalanches come from damage to roadways, and the resulting snow and debris removal costs.

Hazard Evaluation

Avalanche		
Profile Category	**Rating**	**Description**
Historical Occurrence	3	High
Probability	4	High
Vulnerability	2	Limited
Spatial Extent	2	Limited
Magnitude	2	Limited
Total	**13**	**Medium**

OTHER NATURAL HAZARDS

WILDFIRE

Description

Wildfire is defined by the USDA Forest service as, "A fire naturally caused or caused by humans, that is not meeting land management objectives."[24] It is generally thought of as an uncontrolled fire involving vegetative fuels occurring in wildland areas. Such fires are classified for hazard analysis purposes as either "Wildland" or "Wildland Urban Interface" fires. Wildland fires occur in areas that are undeveloped except for the presence of roads, railroads, and power lines, while Wildland Urban Interface fires occur where structures or other human development meets, or is intermingled with the wildland or vegetative fuels. Wildland fire is currently considered a natural and necessary component of wildland ecology and, as such, is most often allowed to progress to the extent that it does not threaten inhabited areas or human interests and well-being. At the Wildland Urban Interface (WUI), vigorous attempts are made to control fires but this becomes an increasingly difficult challenge as more and more development for recreational and living purposes takes place in wildland areas. Some wildland fires are ignited naturally (almost exclusively by lightning), but most ignitions are a result of human activities, either careless or intentional. The rapidity with which a wildland fire spreads, and the intensity with which it burns, is controlled by a number of factors including:

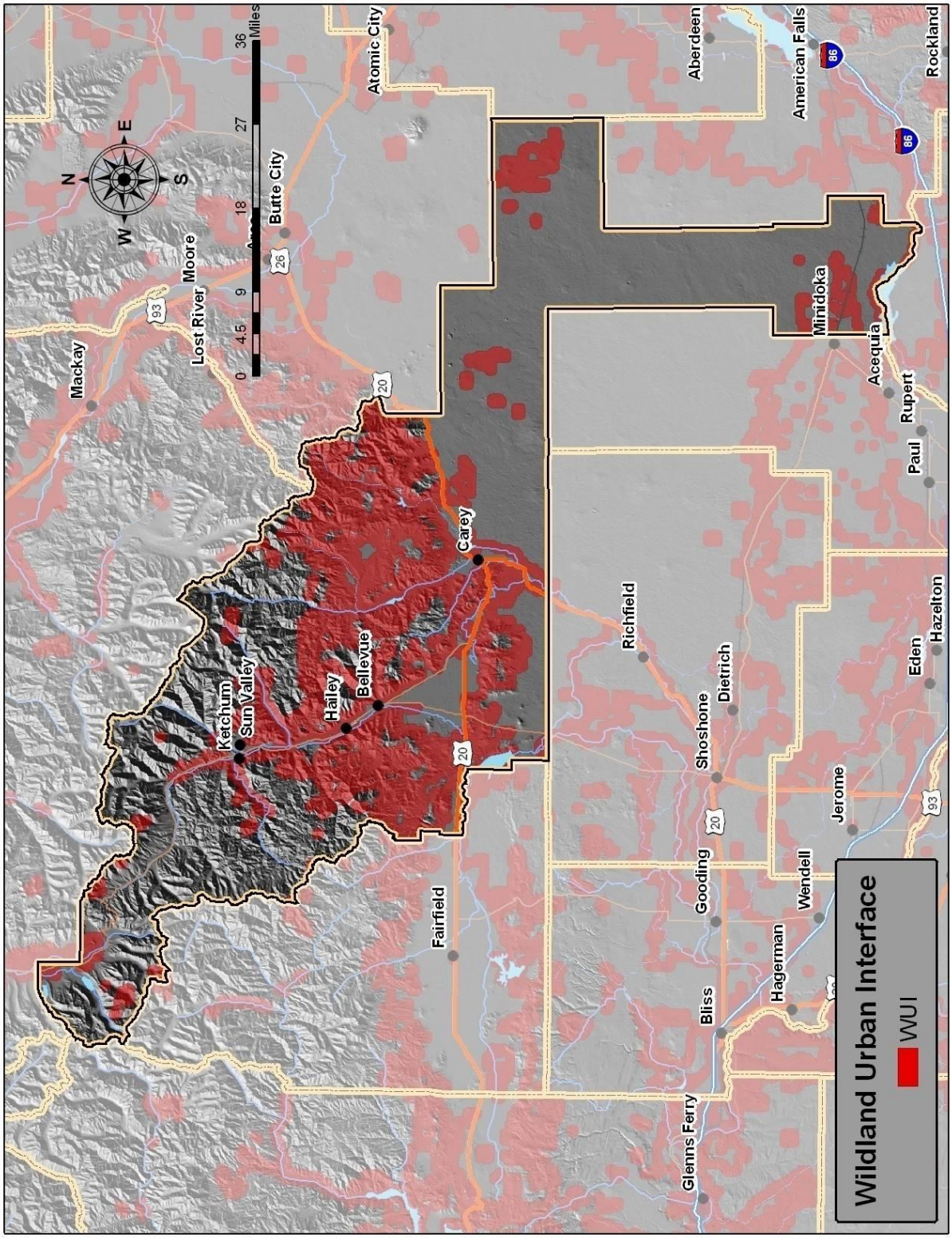
- Weather - wind speed and direction, temperature, precipitation
- Terrain – fires burn most rapidly upslope
- Type of vegetation
- Condition of vegetation – dryness
- Fuel load – the amount and density of vegetation
- Human attempts to suppress

In Idaho, fire was once an integral function of the majority of ecosystems. The seasonal cycling of fire across the landscape was as regular as the July, August, and September lightning storms plying across the canyons and mountains. Depending on the plant community composition, structural configuration, and buildup of plant biomass, fire resulted from ignitions with varying intensities and extent across the landscape. Shorter return intervals between fire events often resulted in less dramatic changes in plant composition[25]. The fires burned from 1 to 47 years apart, with most at 5 to 20-year intervals[26]. With infrequent return intervals, plant communities tended to burn more severely and be replaced by vegetation different in composition, structure, and age[27]. Native plant communities in this region developed under the influence of fire, and

[24] http://www.fs.fed.us/fire/fireuse/education/terms/fire_terms_pg5.html
[25] Johnson 1998
[26] Barrett 1979
[27] Barrett 1979

adaptations to fire are evident at the species, community, and ecosystem levels. Fire history data (from fire scars and charcoal deposits) suggest fire has played an important role in shaping the vegetation in the Columbia Basin for thousands of years[28].

[28] Steele *et al.* 1986, Agee 1993


Wildland Urban Interface
WUI
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Mackay
Lost River
Moore
Butte City
Atomic City
Aberdeen
American Falls
Rockland
Minidoka
Acequia
Rupert
Paul
Ketchum
Sun Valley
Hailey
Bellevue
Carey
Richfield
Shoshone
Dietrich
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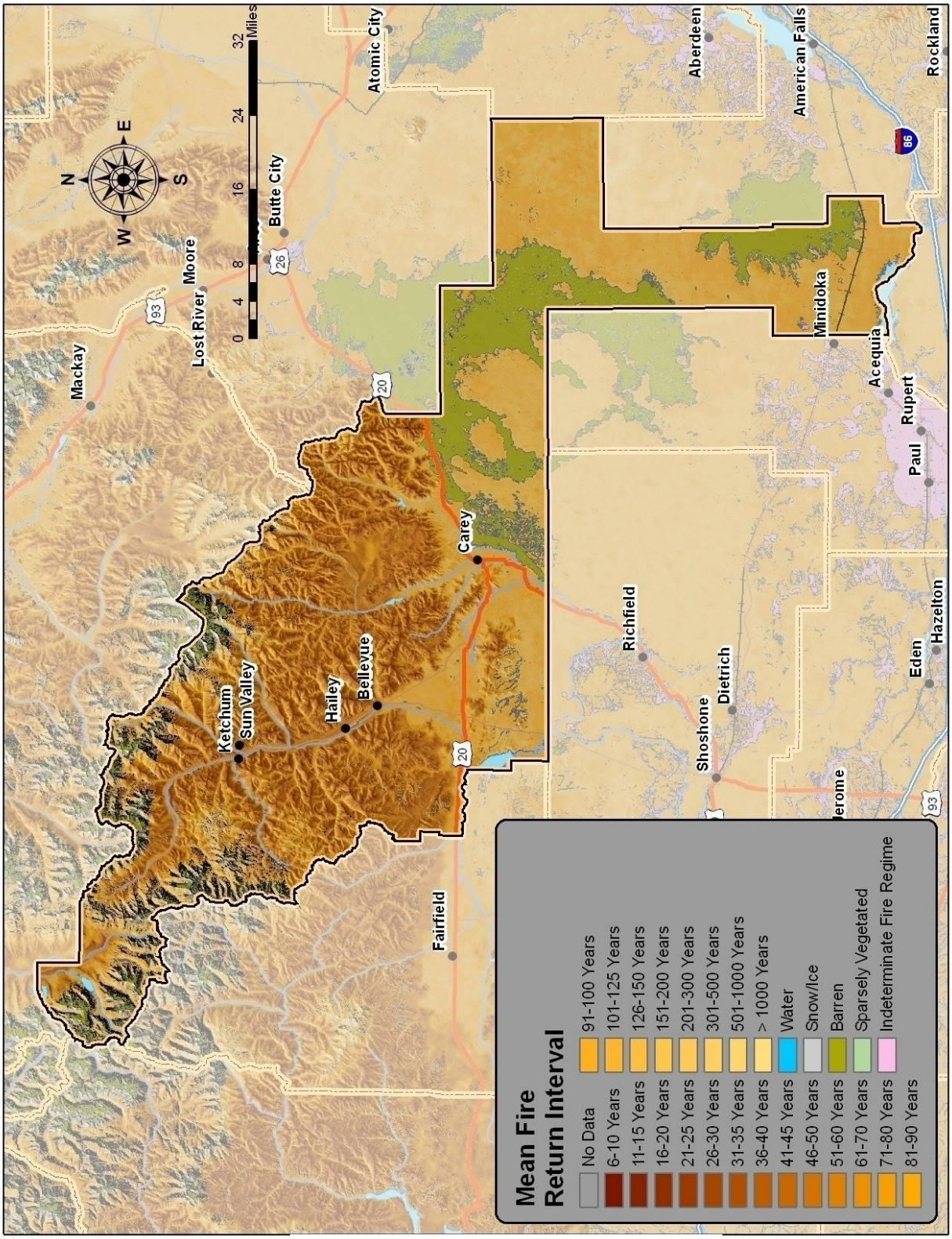


Blaine County Mean Fire Return Interval

For additional information on Wildland Fire Mitigation see the Blaine County Wildland Fire Hazard Mitigation Plan 2014.

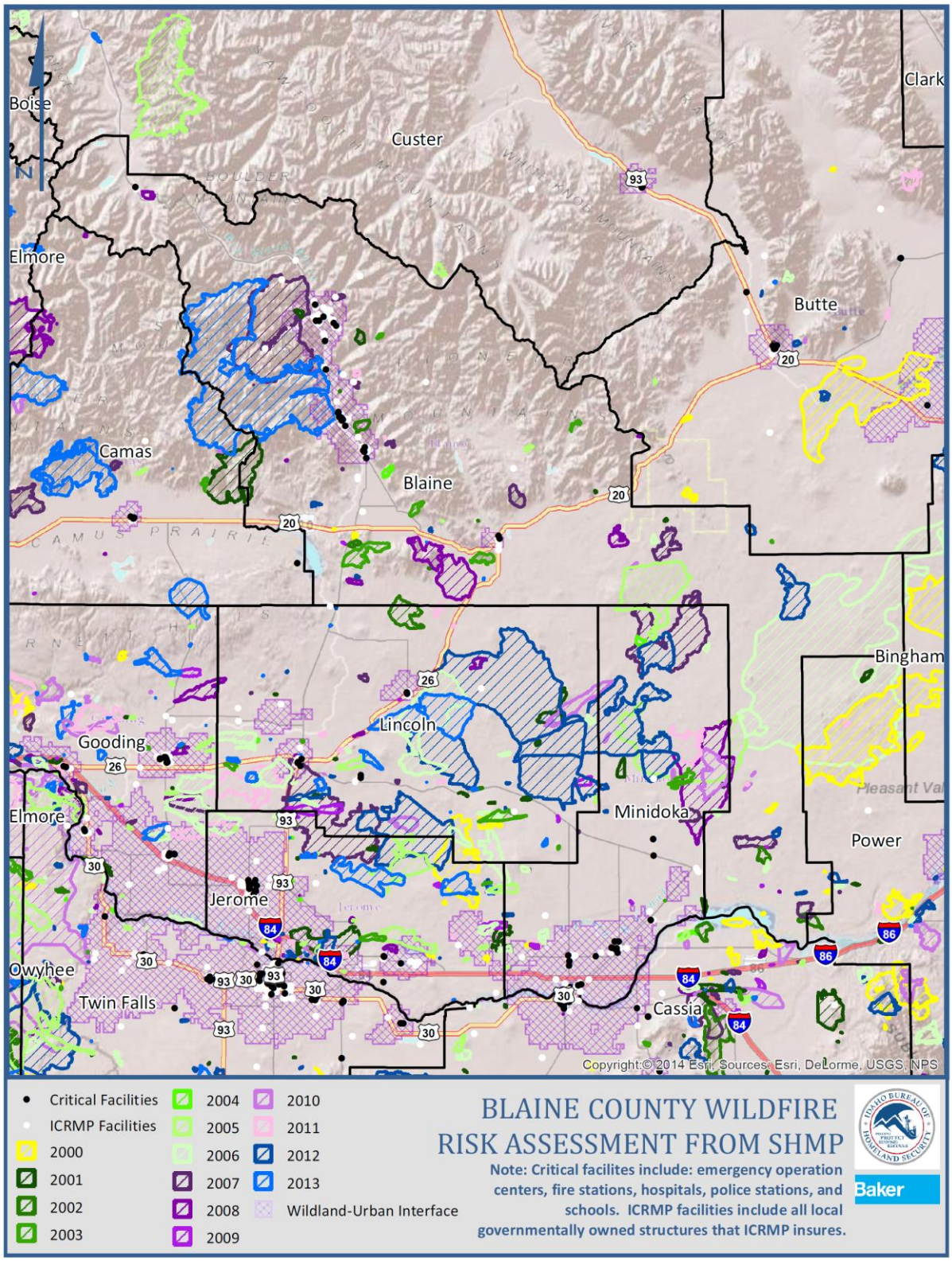
The Blaine County Wildland Fire Hazard Mitigation Plan is incorporated by Reference and is located in Attachment 2.

Historical Frequencies

Between the years 1980 and 2013 there were a total of 916 recorded wildfires in Blaine County. A breakdown of the number of fires per year in Blaine County is given in the table below. Wildland fires occur multiple times per year in the county.

Year	Number of Fires	Acres Burned
1980	26	6,832
1981	43	3,431
1982	25	49,477
1983	15	11,347
1984	8	220
1985	17	2,608
1986	22	6,271
1987	27	7,321
1988	32	5,377
1989	44	3,673
1990	33	10,794
1991	41	13,331
1992	43	47,734
1993	12	200
1994	38	36,340
1995	33	7,590
1996	37	233,933
1997	19	384
1998	25	289
1999	35	203,216
2000	29	1,377
2001	29	1,244
2002	36	3,964
2003	25	6,797
2004	24	494
2005	33	49,756
2006	24	4,369
2007	30	60,675

Year	Number of Fires	Acres Burned
2008	18	17,730
2009	12	125
2010	18	240
2011	19	756
2012	27	8,763
2013	17	100,140

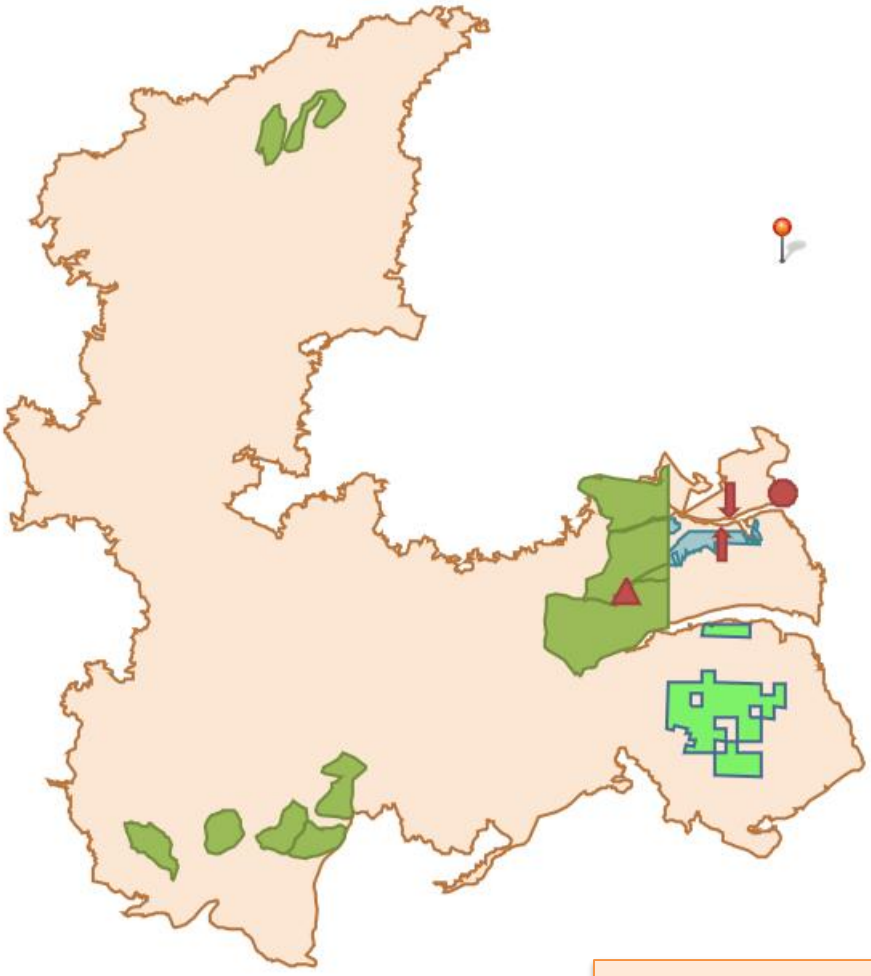


Blaine County Wildland Fire Map

The Beaver Creek Wildland Fire was a reported lightning-caused ignition on August 7, 2013 in rangeland type fuels on Bureau of Land Management land. The fire was originally complexed with the McCan fire but it quickly became evident that the complex could not be effectively managed due to the complexity of the two fires. As the fire made a significant move on to national forest system lands, it was decided to turn the fire over to the Sawtooth NF. Weather conditions during the early stages of the fire, coupled with limited resources due to competition both geographically and nationally set the stage for large fire growth, with towering columns and large acreage growth. The fire grew from 4,786 acres on August 8th to over 16,900 acres on August 9th. Hot, dry weather conditions continued over the next week and a half pushing the fire to well over 100,000 acres, potentially threatening the communities of Hailey and Ketchum, Idaho. Approximately 8,000 residents were in pre-evacuation or evacuated for several days due to predicted rapid fire growth. One residence was lost. The highest percentage of burned area was on NFS lands within Camas and Blaine Counties (93,132 acres). The majority of the fire burned at a moderate burn severity with localized areas of high burn severity. The fire was declared contained on September 1st, 2013. The majority of the burned area (79,114 acres) is on the Ketchum Ranger District with 16,207 acres burned on the Fairfield Ranger District. Approximately 8,903 acres of Shoshone Field Office-BLM, 1,362 acres of State of Idaho land and 12,693 acres of private land were burned. Fire suppression activities included construction of 66 miles of fireline. Total acres burned are:

- NFS 93,132
- BLM 8,908
- State 1,362
- Private 12,693

Beaver Creek Fire Restoration Area



Following the Beaver Creek Fire, Blaine County was hit with heavy rains and mudslides creating significant additional damage. To recover from the fire and mitigate future flooding, Blaine County is working closely with State and Federal agencies to assess the burned area and implement needed treatments. - See more at: http://maps.co.blaine.id.us/storymap/beavercreek/index.html#sthash.ofGaYlrp.dpuf

Impacts

Wildland fires threaten the lives of anyone in their path including hikers, campers, and other recreational users and, where suppression efforts are made, firefighters. Enormous volumes of smoke and airborne particulate materials are produced that can affect the health of persons for many miles downwind. Nearer to the fire, smoke reduces visibility, disrupting traffic and increasing the likelihood of highway accidents. As a result of wildland fire there may be changes in water quality in the area, and erosion rates may increase along with increased rainfall runoff and flash flood threat, and decreased rainfall interception and infiltration. Indirect impacts include losses to tourism, recreational and timber interests, and loss of wildlife habitat. Wildland Urban Interface fires have most, or all of the above impacts, as well as those of structural fires including injury and loss of life, loss of structures, and loss of contents. Agricultural losses may also be sustained including livestock, crops, fencing, and equipment.

Loss Estimates

A GIS overlay operation was used to determine the number and value of land parcels that lie within the wildland urban interface. The following table represents the results of that analysis:

Hazard	No of Parcels Affected	Value of Affected Parcels
Wildland Fire	15,651	$2,952,436,281

As experienced with the Castle Rock Fire (2007), the losses cannot be based solely on private property loss ,but also the loss due to response, economic losses due to business and tourism interruption, and harvestable timber, to name a few.

Hazard Evaluation

Wildfire		
Profile Category	**Rating**	**Description**
Historical Occurrence	3	High
Probability	4	High
Vulnerability	4	Catastrophic
Spatial Extent	3	Critical
Magnitude	4	Catastrophic
Total	**18**	**High**

BIOLOGICAL

VECTOR BORNE DISEASE

Description

Vector Borne Disease is usually discussed in two ways, an epidemic and a pandemic. An "epidemic" is defined as a disease that appears as new cases in the human population at a rate, during a given time period and location, that substantially exceeds the number expected. It is, thus, a relative term and there is no quantitative criterion for designating a health crisis as an epidemic. In addition to its application to infectious diseases, the term is sometimes used to describe outbreaks of other adverse health effects, including those stemming from chemical exposure, sociological problems, and psychological disorders. A "pandemic" is a worldwide epidemic, while the term "outbreak" may be applied to more geographically limited medical problems as, for instance, in a single community rather than statewide or nationwide. The term "cluster" is often used with reference to noncommunicable diseases.

Three factors combine to produce an epidemic: an "agent" that causes the disease, a "host" that is susceptible to the disease, and an "environment" that permits the host to be exposed to the agent. The spread of an infectious disease depends on the chain of transmission: a source of the agent, a route of exit from the host, a mode of transmission between the susceptible host and the source, and a route of entry into another susceptible host. Modes of spread may involve direct physical contact between the infected host and the new host, or airborne spread, such as coughing or sneezing. Indirect transmission takes place through vehicles such as contaminated water, food, or intravenous fluids; inanimate objects such as bedding, clothes, or surgical instruments; or a biological vector such as a mosquito or flea.

Health agencies closely monitor for diseases with the potential to cause an epidemic and seek to develop immunizations and eliminate vectors. While this effort has been remarkably successful, there are many diseases of concern, and the HIV/AIDS pandemic is still not controlled despite more than 25 years of effort since recognition of the disease in 1981.

Pandemic influenza versus annual influenza season

A flu pandemic has little or nothing in common with the annual flu season. Flu pandemic is caused by a new, much more serious and contagious virus to which humans have little or no natural resistance. And while, in general, a vaccine has been developed in anticipation of the annual flu season, no vaccine would be available at the onset of a pandemic. If such a new, highly contagious strain of influenza began to infect humans, it would probably cause widespread illness and death within a matter of months, and the outbreak could last up to two years. The Centers for Disease Control and Prevention (CDC) predict that as much as 25- 30% of the U.S. population would become ill, that many of these would require hospitalization, and that many might die. Eastern Idaho Public Health District is currently working on a plan to limit the spread of a pandemic influenza and to maintain essential health care and community services if an outbreak should occur. In fact, governments all around the

world are preparing for the possibility of a pandemic outbreak. Even so, it may not be possible to prevent a pandemic, or to halt it once it begins. A person infected with influenza may be contagious for 24 hours before symptoms appear and for seven days thereafter, making it extremely easy for the virus to infect large numbers of people.

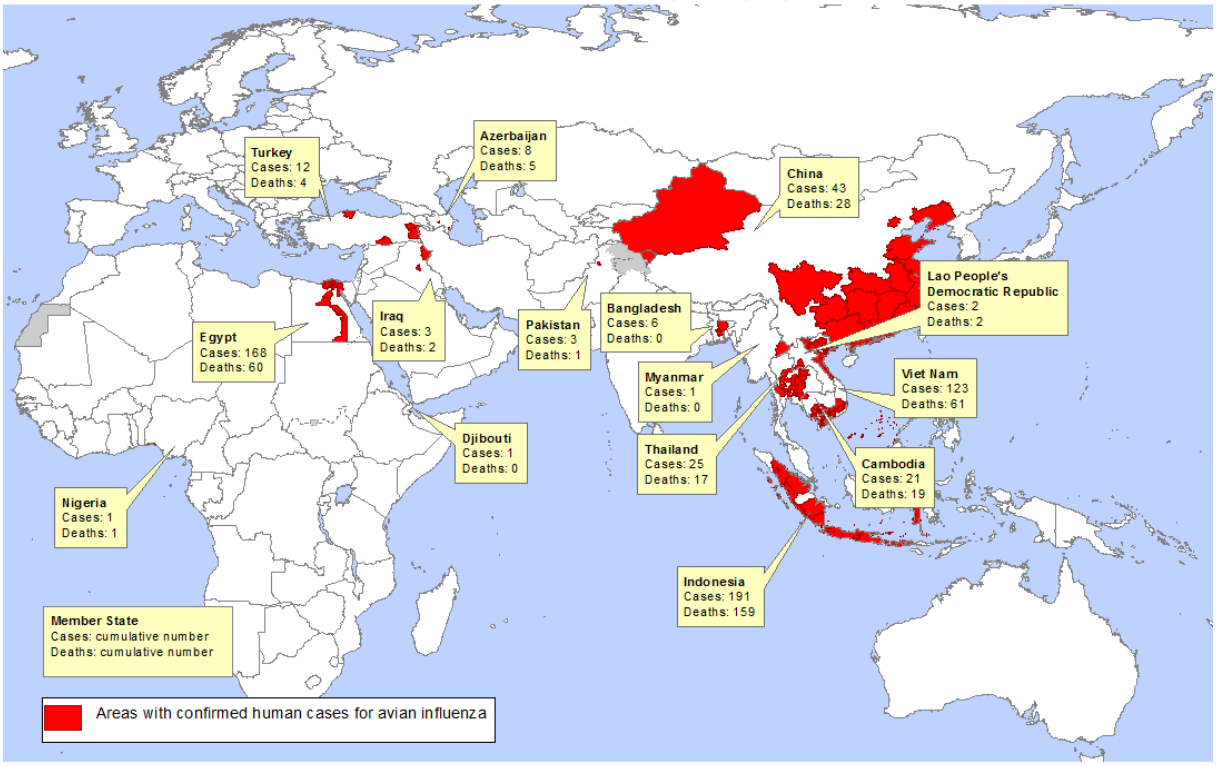
Although the Federal government is stockpiling large quantities of medical supplies and antiviral drugs, no country in the world has enough antivirals to protect all of their citizens. Antivirals would be used to treat severe cases as long as there was a reasonable chance that the drugs might help save lives. Antivirals might also be reserved for people who work in areas that place them at high risk for exposure in an outbreak, such as health care workers. Other strategies for slowing the spread of a potentially deadly pandemic influenza virus might include temporarily closing of schools, sports arenas, theaters, restaurants, taverns, and other public gathering places and facilities.

Vector Borne or Non-Human Transmitted Diseases are considered as a common hazard and evaluated and ranked in a composite score for the purposes of this Plan.

H5N1 "Bird Flu"

Efforts are currently underway to develop a vaccine to protect humans from the H5N1 bird flu virus. While it has so far affected few humans, there is the danger that the bird flu virus may mutate into a new form of human flu that would be easily spread person to person. Some migratory waterfowl carry the H5N1 virus with no apparent harm, but transmit the virus to susceptible domestic poultry. The highly lethal H5N1 outbreak among domestic poultry is widespread and uncontrolled and has directly infected a small number of humans.

Areas with confirmed human cases for avian influenza A(H5N1) reported to WHO, 2003-2012*



*All dates refer to onset of illness
Data as of 10 August 2012
Source: WHO/HIP

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.
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People who have close contact with infected birds, or with surfaces that have been contaminated with droppings from infected birds are at risk of becoming infected. In infected countries, poultry consumption has not been shown to be a risk factor if food is thoroughly cooked, nor are travelers in these countries at increased risk of infection provided the person does not visit live poultry markets, farms, or other environments where exposure to diseased birds may occur. More than 200 million birds in affected countries have either died from the disease, or were killed in order to try to control the outbreak.

Many Asian countries are currently dealing with bird flu outbreaks. Bird flu continues to spread geographically from its original focus in Asia. Further spread of the virus along migratory routes of wild waterfowl is anticipated. So far, there has been no sustained person-to-person spread of the disease, but a few isolated cases of apparent human-to-human spread between family members are currently under investigation.

The reported symptoms of bird flu in humans range from typical influenza-like symptoms (e.g., fever, cough, sore throat, and muscle aches), to eye infections (conjunctivitis), pneumonia, acute respiratory distress, viral pneumonia, and other severe and life threatening complications. Diarrhea, vomiting, abdominal pain, chest pain, and bleeding from the nose and gums have also been reported as early symptoms in some cases. In many cases, health deteriorates rapidly leading to a high percentage of death in those infected.

West Nile Virus

Description

West Nile virus (WNV) is transmitted to people, birds, and other animals by the bite of an infected mosquito. This virus can cause serious illness in people of any age, but especially in people over the age of 50, or those with other underlying medical conditions. The best form of protection is by avoiding mosquito bites.

West Nile virus infections occur in the summer and fall in Idaho, when mosquitoes are active. WNV does not occur in northern states where it is too cool for mosquitoes to survive. In southern states with warmer climates and mosquitoes present year-round, the risk of infection may still be present in the winter months.

Historical Frequencies

Locally-acquired mosquito-borne human infections were first recorded in Idaho in 2004. In 2006, Idaho led the nation in reports of human illness associated with WNV with 996 cases being reported to the State Health Department. In addition to people, WNV was also detected in 338 horses, 127 birds, and numerous mosquitoes.

Date	Human	Horse/other mammal	Bird	Mosquitoes
2005	0	4	0	Not Tested
2006	10	4	1	Not Tested
2007	0	0	0	Not Tested
2008	0	0	0	Not Tested

Reported Cases of WNV in Blaine County
Source - http://www.healthandwelfare.idaho.gov/site/4278/default.aspx

Impacts

West Nile fever may include a fever, headache, body aches, a rash, and swollen glands. The symptoms of West Nile fever may last for days or linger for weeks to months. Serious illness infecting the brain or spinal cord can occur in some individuals, and although anyone can experience the more severe form of the disease, it tends to occur in people over the age of 50 or those with other underlying medical conditions or weakened immune systems. The severe symptoms may include high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness, and paralysis. These symptoms may last several weeks or more, and neurological effects may be permanent. Usually, symptoms occur from 5 to 15 days after the bite of an infected mosquito. There is no specific treatment for infection, but hospitalization and treatment of symptoms may improve the chances of recovery for severe infections. There is no vaccine available for humans.

Loss Estimates

Losses brought about by the effects of West Nile virus are centered on loss of income for those affected by the virus, as well as a loss of productivity by businesses. Death has occurred in Idaho from the West Nile virus both in humans and animals.

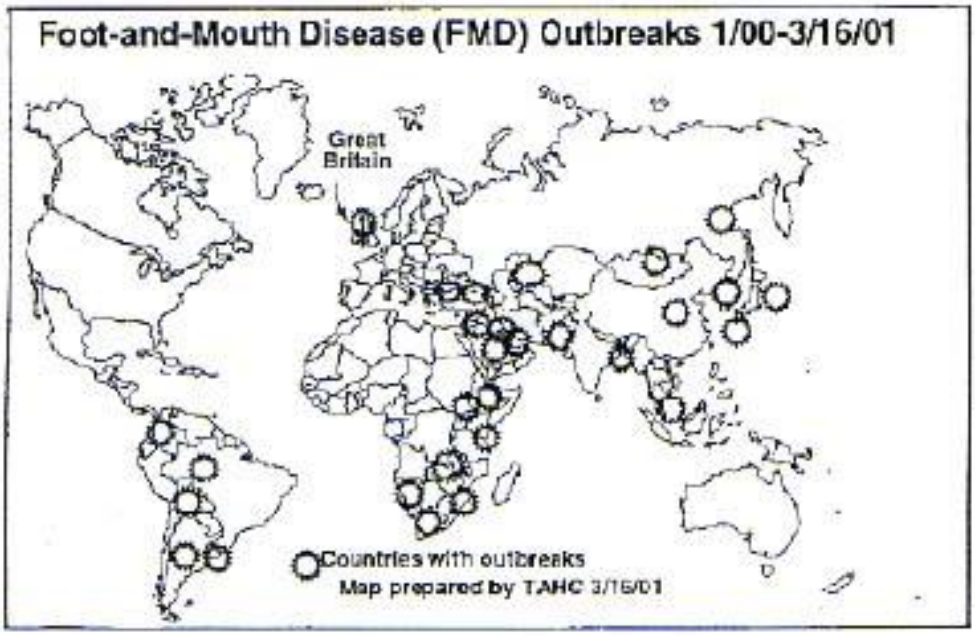
Hoof and Mouth Disease

Description

Hoof-and-mouth, or foot-and-mouth disease is a severe, highly communicable viral disease of cattle and swine. It also affects sheep, goats, deer, and other cloven–hoofed ruminants. Symptoms of FMD include blisters around the mouth or on the feet, excessive drooling, reduced appetite, and lameness. Animals may attempt to walk on their knees. The disease itself is characterized by fever and blister-like lesions followed by erosions on the tongue and lips, in the mouth, on the teats, and between the hooves. Many animals recover, but the disease leaves them debilitated. It causes severe losses in production of meat and milk. Because it spreads widely and rapidly, and because it has grave economic and clinical consequences, FMD is one of the animal diseases that livestock owners dread most.[29]

Historical Frequencies

The U.S. has been free of FMD since 1929. The Figure below illustrates outbreaks of the disease in locations throughout the world.



[29] http://www.livestocktrail.uiuc.edu/biosecurity/hmd/index.htm

Impacts

FMD is one of the most difficult animal infections to control. Because the disease occurs in many parts of the world, there is always a chance of its accidental introduction into the U.S. That chance has been heightened recently by a major outbreak in the United Kingdom that has already spread to continental Europe. The European Union is a major U.S. trading partner.

If an outbreak occurred in the U.S., this disease could spread rapidly to all sections of the country by routine livestock movements unless it was detected early and eradicated immediately. Livestock producers are key to early detection and eradication.

The disease is caused by a virus that can persist in contaminated fodder and the environment for up to one month, depending on the temperature and pH conditions. There are at least seven separate types, and many subtypes, of the FMD virus. Immunity to one type does not protect an animal against other types.

Loss Estimates

There is an indemnity program to compensate producers for infected animals, products (cheese, milk, etc.), and property (feed, seed, wooden fences or buildings, etc.). Federal statutes for FMD eradication mandate that all animals and properties be appraised before the government destroys them. The appraisal of animals is based on their fair market value, or replacement value, within limits to be established during each outbreak. A team of appraisers, including Federal and State government representatives and the producer will be responsible for the appraisal and signed paperwork for each item.

Mad Cow Disease

Description

BSE (bovine spongiform encephalopathy) is a fatal disease that causes progressive neurological degeneration in cattle. Similar to BSE, Creutzfeldt-Jakob disease (CJD) is a rare disease that occurs in humans. In 1996, following outbreaks of BSE among British cattle, scientists found a possible link between BSE and a new variant of CJD (vCJD). While it is not certain how BSE may be spread to humans, evidence indicates that humans may acquire vCJD after consuming BSE-contaminated cattle products.

BSE was first reported among cattle in the United Kingdom (U.K) in November 1986. The source of the BSE outbreak is uncertain, but it is thought to have been amplified by feeding cattle with meat-and-bone meal from BSE-infected cattle. To contain the disease, the British government took a number of steps, including the institution of a feed ban prohibiting the use of meat-and-bone meal, and then slaughtering all cattle believed to be infected.[30]

Historical Frequencies

[30] http://www.hhs.gov/news/press/2001pres/01fsbse.html

Neither BSE among cattle, nor the new human variant of CJD, have been found in the United States.

Some cases of BSE have been identified among cattle in other European countries. Between 1989 and 2000, at least 1,642 cases of BSE have been identified among cattle in Belgium, Denmark, France, Germany, Ireland, Italy, Liechtenstein, the Netherlands, Portugal, Spain and Switzerland.

Among humans, the total worldwide number of known vCJD cases is 92, including 88 in the U.K., three in France, and one in Ireland.

A United States Department of Agriculture (USDA) BSE investigation was initiated on Dec. 23, 2003 when a cow in Washington State was thought to have contracted BSE. By the time the investigation was completed in February 2004, the USDA had examined the identification tags and other devices on 75,000 cattle in three states – Washington, Oregon, and Idaho – and had humanely slaughtered 255 adult cattle and tested them for BSE.

Previously, in May 2003, Canadian authorities had reported finding the first native BSE cow in North America. Records indicated that this cow and the one found in Washington were more than six years old and born prior to the feed ban in the United States and Canada[31].

Since the first case of BSE was reported in 2003, the number of cattle tested for the disease has increased substantially. Still, only about 650,000 of the total US herd (some 35 million slaughtered annually) have been tested - a rate far lower than the percentage tested in Europe or Japan.

Of those tested, two have turned up positive for BSE. That is "evidence that the prevalence of this disease in the United States is extremely low," says Terry Stokes, chief executive officer of the National Cattlemen's Beef Association.[32]

Impacts

BSE among cattle was first described in the U.K. in November 1986. Epidemiological evidence established that the outbreak of BSE was related to the production and use, over many years, of contaminated meat-and-bone meal. The source of the BSE outbreak is uncertain. There is strong evidence and general agreement that the outbreak was amplified by feeding rendered bovine meat-and-bone meal to young calves[33].

Loss Estimates

In 2003, the U.S. ban on Canadian beef and cattle, coupled with already tight U.S. supplies and strong demand, had driven up U.S. beef and cattle prices substantially. After the December 2003 BSE case was announced, cattle prices fell. However, they had stabilized by early January 2004. Industry analysts reported that U.S. domestic demand (both retail and restaurant, including fast-food hamburger sales) appeared to be holding steady. That, combined with lower U.S. cattle inventories due in part to widespread

[31] http://www.fda.gov/fdac/features/2004/304_cow.html
[32] http://www.csmonitor.com/2006/0315/p02s01-uspo.html
[33] http://www.hhs.gov/news/press/2001pres/01fsbse.html

drought in cattle country, kept cattle and beef prices high during 2004, helping to offset the effects of the BSE-related foreign bans.

USDA has reported that average U.S. fed steer (i.e., slaughter-ready cattle) prices were nearly $85 per cwt. for all of 2004, compared with an earlier 2004 prediction of $72-$77; this is near the lower end of a USDA forecast, made just before the BSE case, of $84-$91 per cwt. The 2005 price forecast (as of early 2005) was $80-$85. Average fed steer prices were $85 in 2003 and $67 in 2002.

Nonetheless, foreign import bans mean the domestic market has had to absorb some 23 million more pounds of beef weekly or 1.2 billion pounds for the year due to lost exports, according to Cattle-Fax. Exports of by-products like collagen, sausage casings, brains, other organs, tongue, tails, and tendons (all adding value to each animal) also have been affected by the bans on U.S. beef products. USDA has estimated that U.S. beef and veal exports globally reached only 434 million pounds in 2004, or 17% of the 2003 level of 2.523 billion pounds, even with the partial reopening of Canada and Mexico. The USDA predicted that unless more markets reopen, exports would reach only 640 million pounds in 2005.[34]

Hazard Evaluation

Vector Borne Disease		
Profile Category	**Rating**	**Description**
Historical Occurrence	1	Low
Probability	1	Rare
Vulnerability	2	Limited
Spatial Extent	2	Limited
Magnitude	2	Limited
Total	**8**	**Low**

COMMUNICABLE DISEASE (HUMAN BORNE)

Description

Epidemic is defined as a disease that appears as new cases in the human population at a rate, during a given time period and location, that substantially exceeds the number expected. It is, thus, a relative term and there is no quantitative criterion for designating a health crisis as an epidemic. In addition to its application to infectious diseases, the term is sometimes used to describe outbreaks of other adverse health effects including those stemming from chemical exposure, sociological problems, and psychological disorders. A “pandemic” is a worldwide epidemic while the term “outbreak” may be applied to more geographically limited medical problems as, for instance, in a single community rather than statewide or nationwide. The term “cluster” is often used with reference to non-communicable diseases.

Health agencies closely monitor for diseases having potential to cause an epidemic, and seek to develop immunizations and eliminate vectors. While this effort has been remarkably successful, there are many diseases of concern, and the HIV/AIDS pandemic

[34] http://www.law.umaryland.edu/marshall/crsreports/crsdocuments/RS2170901192005.pdf

is still not controlled despite more than 25 years of effort since recognition of the disease in 1981. When disease control efforts are relaxed, diseases controlled in the past can resurface and become a recurring epidemic (i.e. whooping cough).

Pandemic influenza versus regular influenza season

A flu pandemic has little or nothing in common with the annual flu season. A pandemic flu would be a new strain and a much more serious and contagious flu virus. Humans would have no natural resistance to a new strain of influenza. Also, there is a vaccine for seasonal flu, but there is no vaccine available at this time for a pandemic flu.

If a new, highly contagious strain of influenza began to infect humans, it would likely cause widespread illness and death within a matter of months, and could last up to two years. The Centers for Disease Control and Prevention (CDC) predict that as much as 25% to 30% of the U.S. population could be sick, hospitalized, and in many cases die as a result of severe illness.

Although the Federal government is stockpiling large quantities of medical supplies and antiviral drugs, no country in the world has enough anti-virals to protect their citizens.

For the purposes of this Plan all Communicable or Human Borne Transmitted Diseases are evaluated and ranked with a composite hazard score.

Severe Acute Respiratory Syndrome (SARS)

Severe acute respiratory syndrome (SARS) is a viral respiratory illness caused by a corona virus, called SARS-associated corona virus (SARS-CoV). SARS was first reported in Asia in February 2003. Over the next few months, the illness spread to more than two dozen countries in North America, South America, Europe, and Asia before the SARS global outbreak of 2003 was contained.

According to the World Health Organization (WHO), a total of 8,098 people worldwide became sick with SARS during the 2003 outbreak. Of these, 774 died. In the United States, only eight people had laboratory evidence of SARS-CoV infection. All of these people had traveled to other parts of the world with SARS. SARS did not spread more widely in the community in the United States.

In general, SARS begins with a high fever (temperature greater than 100.4°F [>38.0°C]). Other symptoms may include headache, an overall feeling of discomfort, and body aches. Some people also have mild respiratory symptoms at the outset. About 10 percent to 20 percent of patients have diarrhea. After 2 to 7 days, SARS patients may develop a dry cough. Most patients develop pneumonia.

The main way that SARS seems to spread is by close person-to-person contact. The virus that causes SARS is thought to be transmitted most readily by respiratory droplets (droplet spread) produced when an infected person coughs or sneezes. Droplet spread can happen when droplets from the cough or sneeze of an infected person are propelled a short distance (generally up to 3 feet) through the air and deposited on the mucous membranes of the mouth, nose, or eyes of persons who are nearby. The virus also can spread when a person touches a surface or object contaminated with infectious droplets

and then touches his or her mouth, nose, or eye(s). In addition, it is possible that the SARS virus might spread more broadly through the air (airborne spread) or by other ways that are not now known.

Pertussis (Whopping Cough)

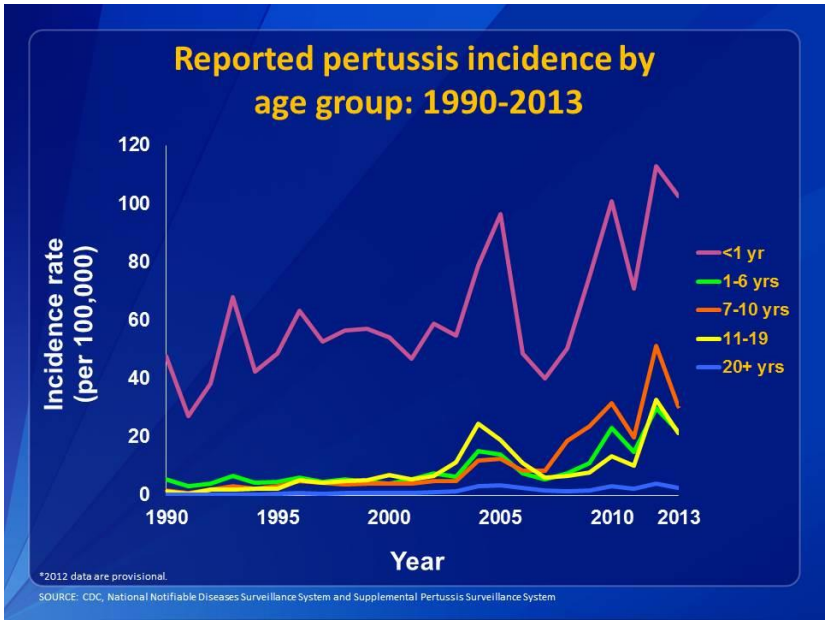
Pertussis is an endemic (common) disease in the United States, with peaks in disease every 3 to 5 years and frequent outbreaks. In 2010, 27,550 cases of pertussis were reported — and many more cases go unreported. In 2012 the incidence of pertussis in Idaho was 13.1 per 100,000 persons, which was above the national average. The primary goal of pertussis outbreak control efforts is to decrease morbidity (amount of disease) and mortality (death) among infants; a secondary goal is to decrease morbidity among persons of all ages.

Pertussis outbreaks can be difficult to identify and manage. Other respiratory pathogens often cause clinical symptoms similar to pertussis, and co-circulation with other pathogens (bacterial and viral) does occur. In order to respond appropriately (e.g., provide appropriate antibiotic prophylaxis), it is important to confirm that Bordetella pertussis is circulating in the outbreak setting, and to determine whether other pathogens are contributing to the outbreak. Polymerase chain reaction (PCR) tests vary in specificity, so obtaining culture confirmation of pertussis for at least one suspicious case is recommended any time there is suspicion of a pertussis outbreak. Multiple cases of confirmed Pertussis have been reported in Idaho in the winter of 2014.

Pseudo outbreaks of pertussis have resulted because of false positive test results with PCR. This underscores the importance of recognizing clinical signs and symptoms and practicing careful laboratory testing.

Institutional outbreaks of pertussis are common. Outbreaks at middle and high schools can occur as protection from childhood vaccines fades. In school outbreaks, prophylaxis is recommended for close classroom and team contacts — and the pertussis booster vaccine (Dtap) depending on age. Pertussis outbreaks in hospitals and other clinical settings can put infants and other patients at risk.

This figure shows the trend of the number of pertussis cases over the past 90 years. The number of cases drastically drops off post WWII, and then begins to gain momentum again in the early 1990's. It appears that there is an upward trend.



Historic Communicable Disease Outbreak Events

The 1918 -1920 Spanish Flu:

The first cases of Spanish Flu were reported in Canyon County (northwest of Boise) on September 30, 1918. Within three weeks, the disease was raging all across the State. The numbers of deaths in the State and in Blaine County are unknown but it is estimated that 675,000 Americans died during the epidemic and that 20 to 40 million died worldwide.

Asian Flu 1957 -1958:

First identified in China, this virus caused roughly 70,000 deaths in the United States during the 1957-58 seasons. Because this strain has not circulated in humans since 1968, no one under 30 years old has immunity to this strain.

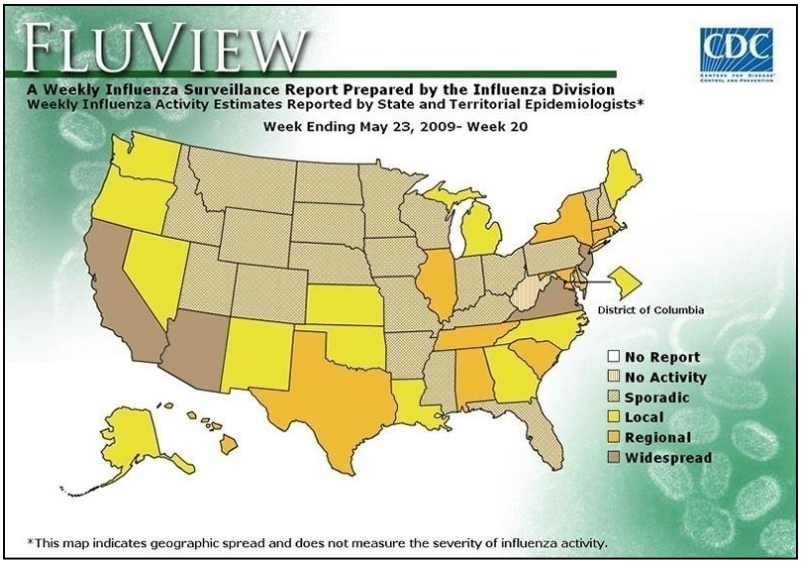
Hong Kong Flu 1968-1969:

First detected in Hong Kong in early 1968 and spread to the United States later that year. The Hong Kong Flu killed about 34,000 people in the United States and one million people worldwide.

Swine Flu – 2009

Novel influenza A (H1N1) is a new flu virus of swine origin that was first detected in April, 2009. The virus is infecting people and is spreading from person-to-person, sparking a growing outbreak of illness in the United States. An increasing number of cases are being reported internationally as well.

It's thought that novel influenza A (H1N1) flu spreads in the same way that regular seasonal influenza viruses spread; mainly through the coughs and sneezes of people who are sick with the virus.



It's uncertain at this time how severe this novel H1N1 outbreak will be in terms of illness and death compared with other influenza viruses. Because this is a new virus, most people will not have immunity to it, and illness may be more severe and widespread as a result. The 2009 totals for cases and deaths in Idaho are as follows:

- Official Cases: 166
- Unofficial Cases: 1,165
- Deaths: 22

The death rate per infection of confirmed cases for the United States was 9.39%. The death rate of confirmed cases in Idaho was 7.5%.

Ebola – 2014

Ebola is a disease of humans and other primates caused by ebolaviruses. Signs and symptoms typically start between two days and three weeks after contracting the virus as a fever, sore throat, muscle pain, and headaches. Then, vomiting, diarrhea and rash usually follow, along with decreased function of the liver and kidneys. At this time some people begin to bleed both internally and externally. The disease has a high risk of death, killing between 25 percent and 90 percent of those infected with the virus, averaging out at 50 percent. This is often due to low blood pressure from fluid loss, and typically follows six to sixteen days after symptoms appear.

The virus spreads by direct contact with body fluids, such as blood, of infected human or other animals, and upon contact with a recently contaminated item or surface. Spread of the disease through the air between primates, including humans, has not been documented in either laboratory or natural conditions. Semen or breast milk of a person with EVD after recovery may still carry the virus for several weeks to months. Fruit bats are believed to be the normal carrier in nature, able to spread the virus without being affected by it. Other diseases such as malaria, cholera, typhoid fever, meningitis and other viral hemorrhagic fevers may resemble EVD. Blood samples are tested for viral RNA, viral antibodies or for the virus itself to confirm the diagnosis.

Control of outbreaks requires coordinated medical services, alongside a certain level of community engagement. The medical services include: rapid detection of cases of disease, contact tracing of those who have come into contact with infected individuals, quick access to laboratory services, proper care and management of those who are infected and proper disposal of the dead through cremation or burial. Prevention includes limiting the spread of disease from infected animals to humans. This may be done by handling potentially infected bush meat only while wearing protective clothing and by thoroughly cooking it before consumption. It also includes wearing proper protective clothing and washing hands when around a person with the disease. Samples of body fluids and tissues from people with the disease should be handled with special caution.

No specific treatment or vaccine for the virus is commercially available, although a number of potential treatments are being studied. Efforts to help those who are infected are supportive; they include either oral rehydration therapy (drinking slightly sweetened and salty water) or giving intravenous fluids as well as treating symptoms. This supportive care improves outcomes. The disease was first described in 1976 in two simultaneous outbreaks, one in Nzara, and the other in Yambuku, the latter of which occurred in a village near the Ebola River where the disease takes its name. EVD outbreaks typically occur intermittently in tropical regions of sub-Saharan Africa. Through 2013, the World Health Organization reported a total of 1,716 cases in 24 outbreaks. The largest outbreak to date is the ongoing epidemic in West Africa, which is centered in Guinea, Sierra Leone and Liberia. As of 18 December 2014, this outbreak has 19,078 reported cases resulting in 7,413 deaths.[35]

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[35] Ebola virus disease Fact sheet No. 103". *World Health Organization*, September 2014

Impacts

The following are potential impacts from a worldwide pandemic event. The impacts in Blaine County would be similar on a local level.

- Rapid Spread
- Health Care Systems Overloaded
- Medical Supplies Inadequate
- Economic and Social Disruption

Loss Estimates

Historically, epidemics have claimed far more lives than any other type of disaster. While modern epidemiology and medical advances make the decimation of populations much less likely, new forms of disease continue to appear. The potential, therefore, exists for epidemics to cause widespread loss of life and disability, overwhelm medical resources, and have tremendous economic impacts. Schools, business districts, and other public areas may be shut down for a period of time to reduce exposure to the disease. This has the potential to completely devastate the local economy.

South Central Public Health District

Individuals, classified as refugees, are relocated to south central Idaho through the College of Southern Idaho Refugee Center on a regular basis. These individuals undergo a comprehensive medical screening before they leave their camp or other location. Upon arrival in the local area, these individuals receive a screening by staff at South Central Public Health District. Records are reviewed and appropriate referrals to healthcare providers are made.

Hazard Evaluation

Communicable (Human Borne) Disease		
Profile Category	**Rating**	**Description**
Historical Occurrence	1	Low
Probability	2	Low
Vulnerability	3	Critical
Spatial Extent	4	Catastrophic
Magnitude	4	Catastrophic
Total	**14**	**Medium**

TECHNOLOGICAL (MANMADE) HAZARDS

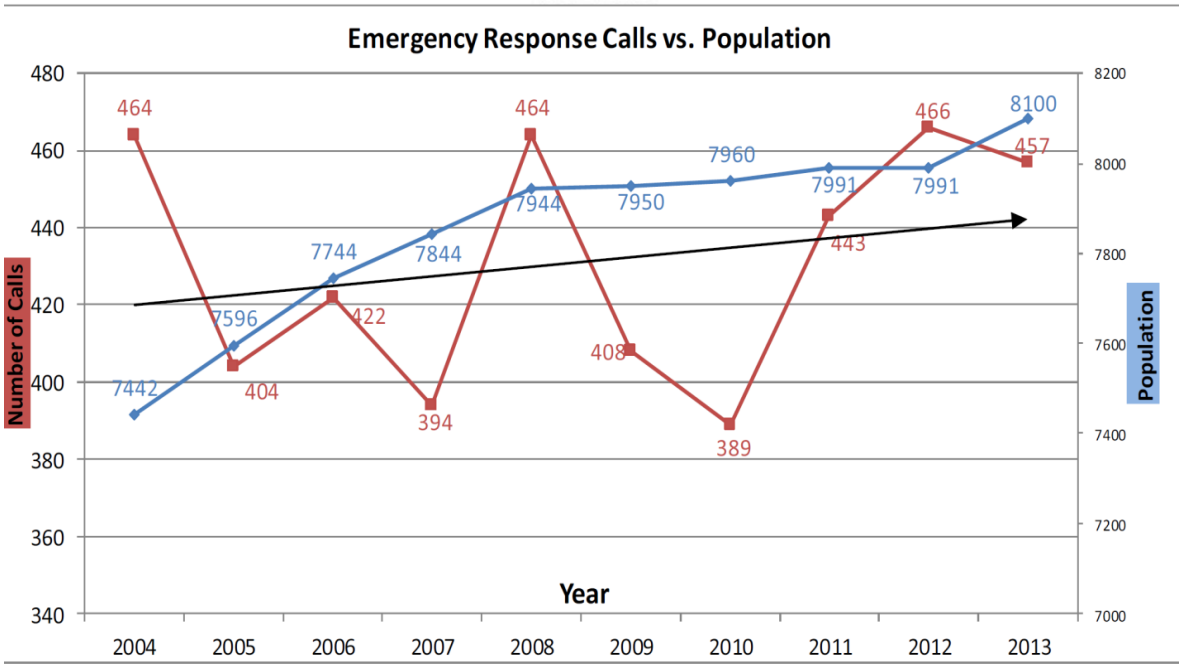
STRUCTURAL FIRE

Description

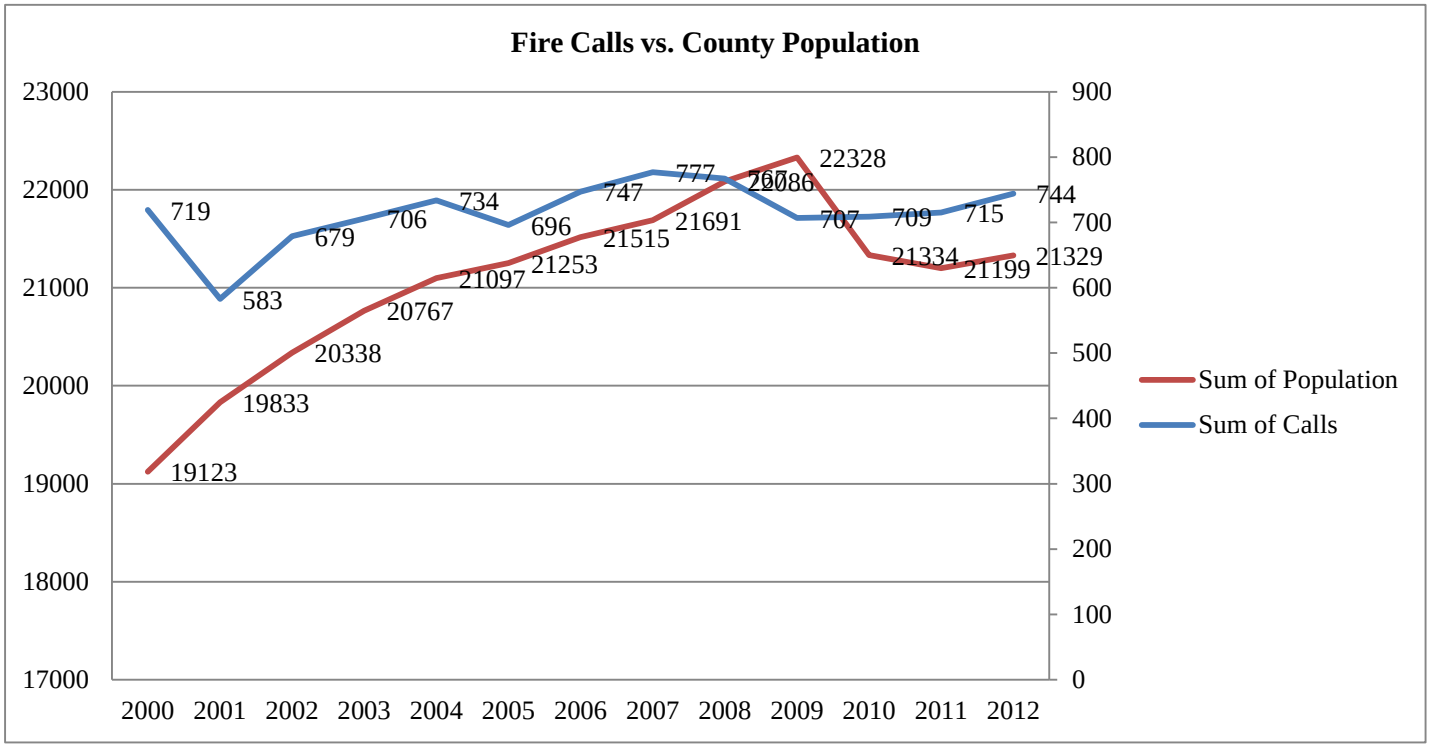
Structural fires produce high heat, toxic gases, and particulate material as smoke and soot. The heat produced or burning debris can, in turn, cause additional fires. Toxic gases and smoke are extreme hazards in the interior of burning structures and may also be a threat downwind of the structure. Where the building contents include toxic materials, the downwind threat can extend a mile or more. Burning structures may collapse injuring persons inside or nearb, and floors or roofs may give way beneath those walking on them. Burning structures present electrical, explosion, and flashover hazards, and partially burned structures may, themselves, be physical hazards even after the fire is extinguished.

Historical Frequencies

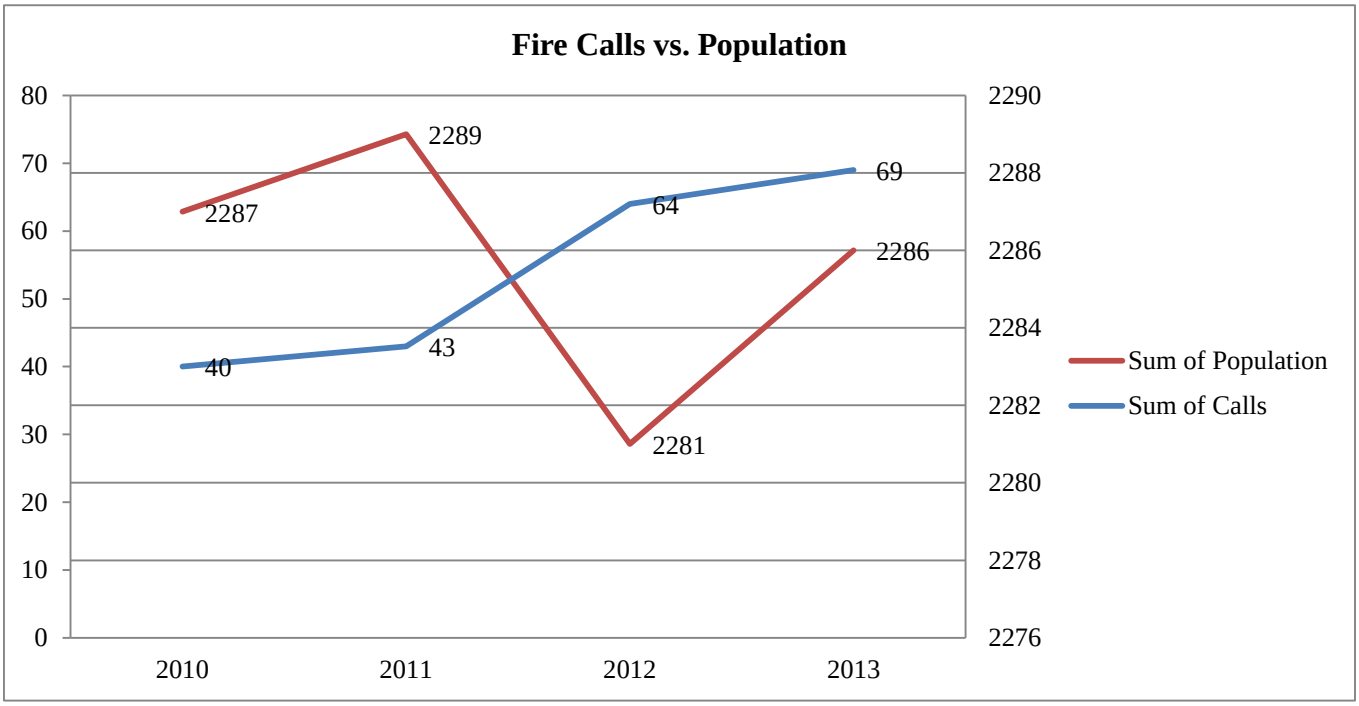
Structure fires are extremely common in Blaine County, as they are across the nation. As an example of frequency, the charts below show the number of fire response calls from each department in the County beginning in 2010. The charts show the number of calls juxtaposed against the population of the area they serve. Typically the number of calls increases as population increases.



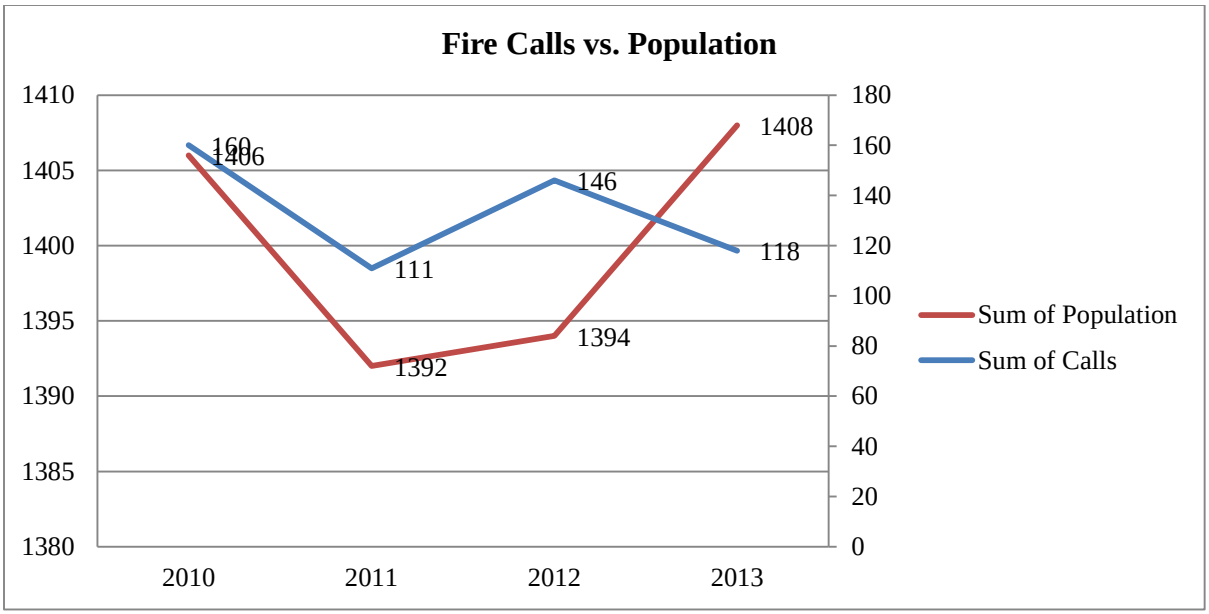
City of Hailey Fire Department



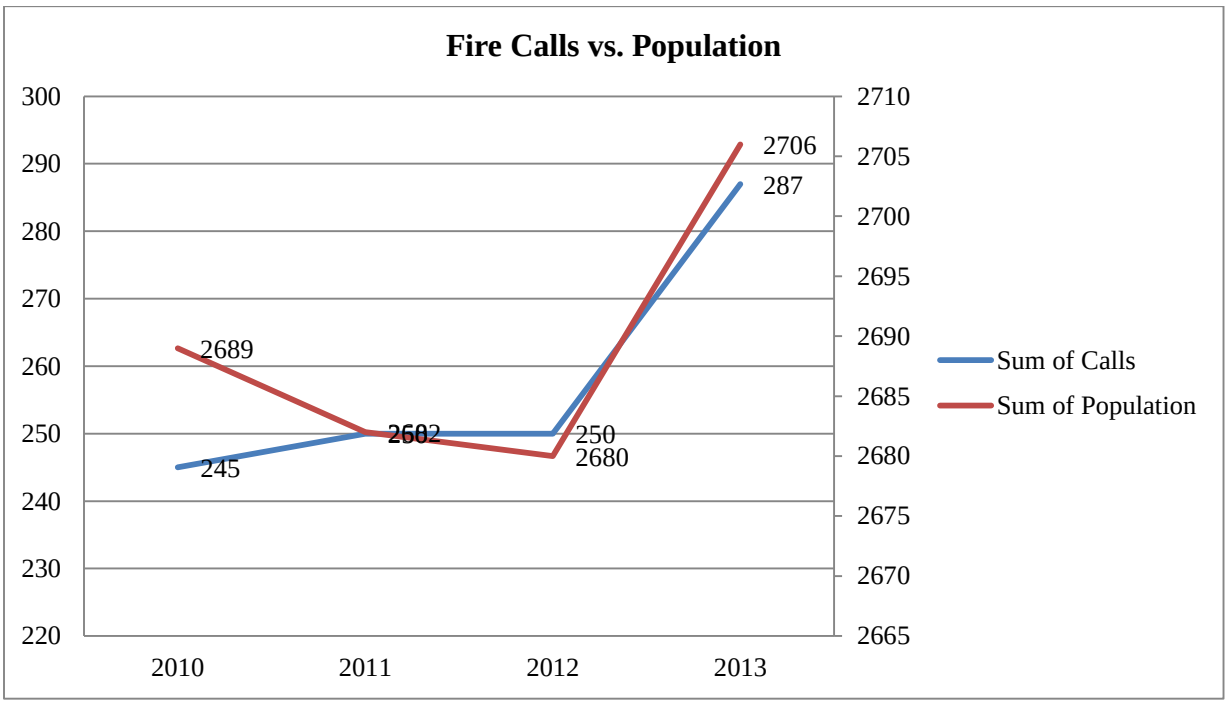
Wood River Fire and Rescue



Bellevue Fire Department



City of Sun Valley Fire Department



City of Ketchum Fire Department

Hazard Evaluation

Structure Fire		
Profile Category	Rating	Description
Historical Occurrence	3	High
Probability	4	High
Vulnerability	2	Limited
Spatial Extent	1	Negligible
Magnitude	2	Limited
Total	12	Medium

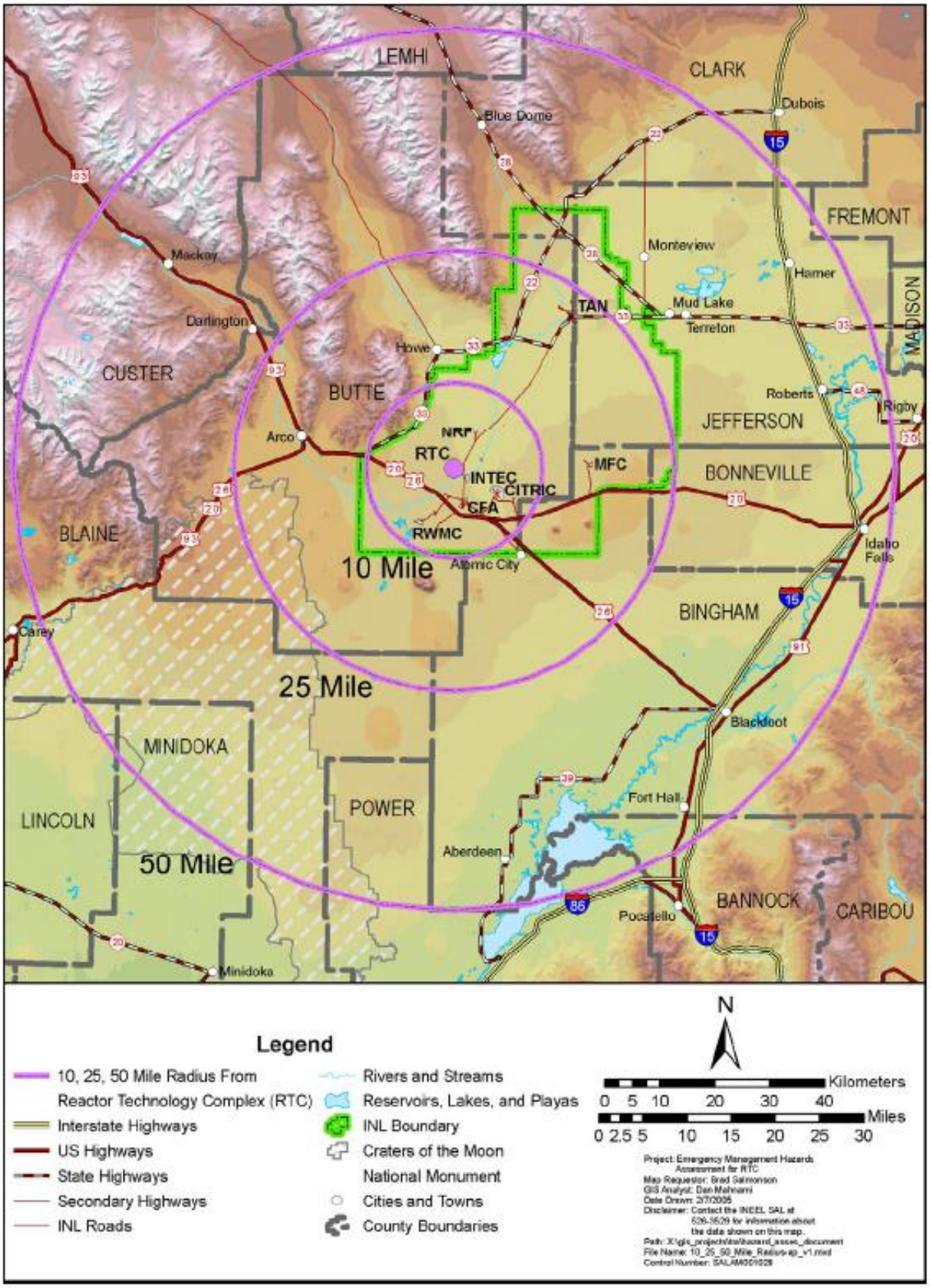
NUCLEAR EVENT

Description

A "nuclear event" is defined as an incident involving a nuclear reaction; nuclear fission or nuclear fusion. Nuclear fusion, at present, only takes place during the detonation of a nuclear weapon (the so-called H-bomb) and is highly improbable. Much more common is nuclear fission which must involve "fissionable" materials, defined as materials containing isotopes with nuclei capable of splitting. Further, the most probable incidents involve "fissile" materials, defined as materials containing isotopes capable of sustaining a nuclear fission chain reaction. Such reactions release heat, radiation, and radioactive contamination in extremely large quantities relative to the amount of material reacting. Examples of nuclear events include nuclear weapons detonations, nuclear reactor incidents, and nuclear (fissile) material production, handling, or transportation incidents. A nuclear detonation as a part of an attack scenario is, perhaps, the ultimate technological disaster. The hazards are well-known and vividly described in FEMA publications[36]. They include shock wave, enormous heat, and the spread of fallout (radioactive contamination). Other nuclear events would not involve a nuclear blast, but still have the potential to produce widespread and long-term consequences as exemplified by the 1986 Chernobyl accident[37]. Of primary concern is the release of radioactive contamination in the form of airborne gases and particulate material. This radioactive material has the potential to travel great distances and particulate material eventually is deposited in the environment and incorporated into the food chain. Such contamination may remain hazardous for many years. Direct radiation exposure is also a hazard in relatively close proximity to a nuclear event, as is exposure to high thermal energy. Nuclear events are virtually always caused by intentional or unintentional human actions.

The Idaho National Laboratory poses a credible hazard to Blaine County. The locations of the INL and of the RTC facility within the Site boundary are shown in the Figure below. As shown in the Table on the following page, the Protective Action Distance for a radiological release from the RTC facility is 115 km (approximately 69 miles). This indicates a threat to crops and grazing lands in the eastern portions of Blaine County.

[36] http://www.fema.gov/areyouready/nuclear_blast.shtm
[37] http://www.iaea.org/NewsCenter/Focus/Chernobyl/index.html



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Historical Frequencies

INL Hazards Assessment Maximum Protective Action Distances (PAD)		
Facility	**Non-Rad PAD**	**Rad PAD**
Research Center (IRC)	0.1 km	None
Radioactive Waste Management Complex (RWMC)	None	15 km
Reactor Technology Complex (RTC)	7.8 km	115 km
Idaho Nuclear Technology and Engineering Center (INTEC)	1.6 km	16 km
Central Facilities Area (CFA)	0.5 km	None
Transportation	*	*
Materials and Fuels Complex (MFC)	1.7 km	4.5 km
Area North (TAN)	**	0.03 km

* INL asserts that associated transportation activity is within "normal" limits for highway traffic and uses the DOT ERG for its planning basis.
** Unclear but well within INL Site boundary

INL Hazards Assessment Maximum Protective Action Distances
Source – U. S. Department of Energy Idaho Operations Office

There have been no recorded nuclear events in Blaine County

Impacts

A portion of eastern Blaine County lies within the 69-mile ingestion pathway planning zone of the INL Reactor Technology Complex. In this zone, direct, human radiological and contamination exposure is not a serious concern. There is, however, a long-term threat to the food supply because vegetables, fruit, trees, and grains may take up radionuclides from the soil. Radionuclides may also be ingested by livestock, wild game, and fish that may then enter the human food chain. In the event of a serious radiological release from that facility, food production, processin, and marketing facilities within the planning zone could be affected.

There are two types of responses intended to prevent or limit public exposure in the ingestion pathway:[38]

- Preventive protective actions are those taken by farmers to prevent contamination of milk, water, and food products (e.g., sheltering dairy animals and placing them on stored feed and covered water).

[38] http://www.hsem.state.mn.us/uploadedfile/dir_hand/EMDH_C- 13_RadiologicalEmergencyPreparednessProgram.pdf

- Emergency protective actions are those taken by public officials to address contaminated milk, water, and food products, and divert such products from animal and human consumption (i.e., embargoes).

Loss Estimates

Indirect costs due to a nuclear event would almost certainly exceed those of clean-up. These would include costs attributable to the stigma associated with radiation and radioactive material in the mind of the public. Because of this stigma, the social and political impacts of a nuclear event may greatly exceed any justifiable limits. There have been instances where the public has avoided radiologically contaminated areas and shunned affected businesses and their products long after any credible health threat has been eliminated.

Hazard Evaluation

Radiological		
Profile Category	**Rating**	**Description**
Historical Occurrence	0	None
Probability	1	Rare
Vulnerability	2	Limited
Spatial Extent	2	Limited
Magnitude	3	Critical
Total	**8**	**Low**

HAZARDOUS MATERIAL EVENT

Description

Substances that, because of their chemical or physical characteristics, are hazardous to humans and living organisms, property, and the environment, are regulated by the U.S. Environmental Protection Agency (EPA), and when transported in commerce, by the U.S. Department of Transportation (DOT). EPA regulations address “hazardous substances” and “extremely hazardous substances”.

EPA chooses to specifically list hazardous substances and extremely hazardous substances rather than providing objective definitions. Hazardous substances, as listed, are generally materials that, if released into the environment, tend to persist for long periods and pose long-term health hazards for living organisms. They are primarily chronic, rather than acute health hazards. Regulations require that spills of these materials into the environment in amounts at or above their individual “reportable quantities” must be reported to the EPA. Extremely hazardous substances, on the other hand, while also generally toxic materials, are acute health hazards that, when released, are immediately dangerous to the life of humans and animals as well as causing serious damage to the environment. There are currently 355 specifically listed extremely hazardous substances listed along with their individual “threshold planning quantities” (TPQ). When facilities have these materials in quantities at or above the TPQ, they must

submit "Tier II" information to appropriate State and/or local agencies to facilitate emergency planning.

DOT regulations provide the following definition for the term "hazardous material":

> *Hazardous material* means a substance or material that the Secretary of Transportation has determined is capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and has been designated as hazardous under section 5103 of Federal hazardous materials transportation law (49 U.S.C. 5103). The term includes hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (see 49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions in part 173 of subchapter C of this chapter.

When a substance meets the DOT definition of a hazardous material, it must be transported under safety regulations providing for appropriate packaging, communication of hazards, and proper shipping controls.

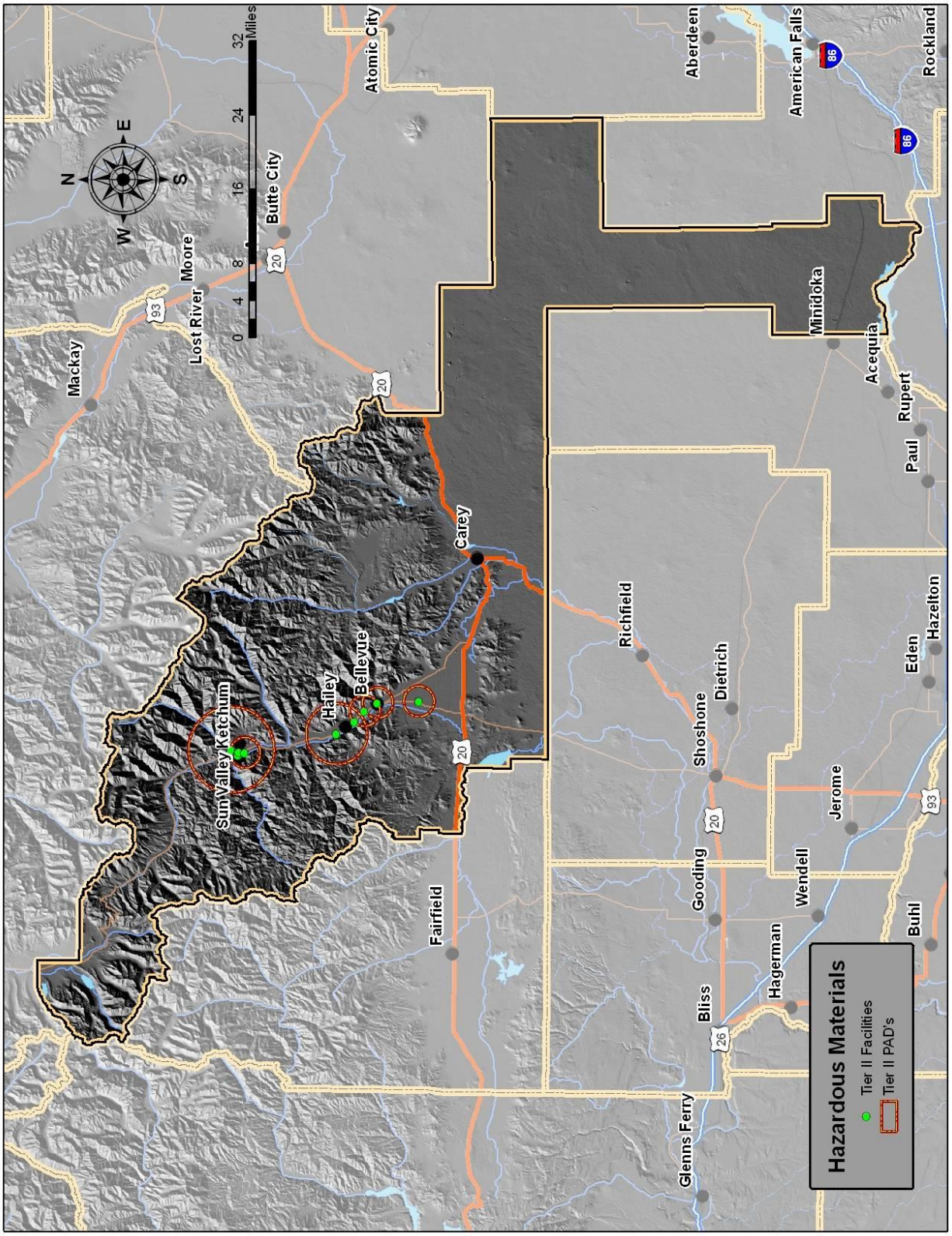
In addition to EPA and DOT regulations, the National Fire Protection Association (NFPA) develops codes and standards for the safe storage and use of hazardous materials. These codes and standards are generally adopted locally and include the use of the NFPA 704 standard for communication of chemical hazards in terms of health, fire, instability (previously called "reactivity"), and other special hazards (such as water reactivity and oxidizer characteristics). Diamond-shaped NFPA 704 signs ranking the health, fire, and instability hazards on a numerical scale from zero (least) to four (greatest) along with any special hazards, are usually required to be posted on chemical storage buildings, tanks, and other facilities. Similar NFPA 704 labels may also be required on individual containers stored and/or used inside facilities.

While somewhat differently defined by the above organizations, the term "hazardous material" may be generally understood to encompass substances that have the capability to harm humans and other living organisms, property, and/or the environment. There is also no universally accepted, objective definition of the term "hazardous material event." A useful working definition, however, might be framed as: Any actual or threatened uncontrolled release of a hazardous material, its hazardous reaction products, or the energy released by its reactions that poses a significant risk to human life and health, property, and/or the environment.

There are 10 facilities in Blaine County that submitted Tier II information. The following figure shows these Tier II facilities along with their Protective Action Distances (PAD). These PADs are based on a hypothetical worst-case scenario where the total quantity of the material explodes or is released directly into the air. Hazardous materials are also very commonly stocked and used by businesses in smaller quantities than those required to submit Tier II reports, as well as by private individuals. Thus, it is reasonably safe to consider the entire County and its inhabitants to be exposed to risk from hazardous materials. In spite of their widespread use, however, hazardous materials events are relatively rare and even more rarely cause death, injury, or large-scale property damage. To some extent this is due to the fact that such hazards are very effectively addressed by

inspections, regulations, codes, and safety procedures, as well as by specialized emergency response training.

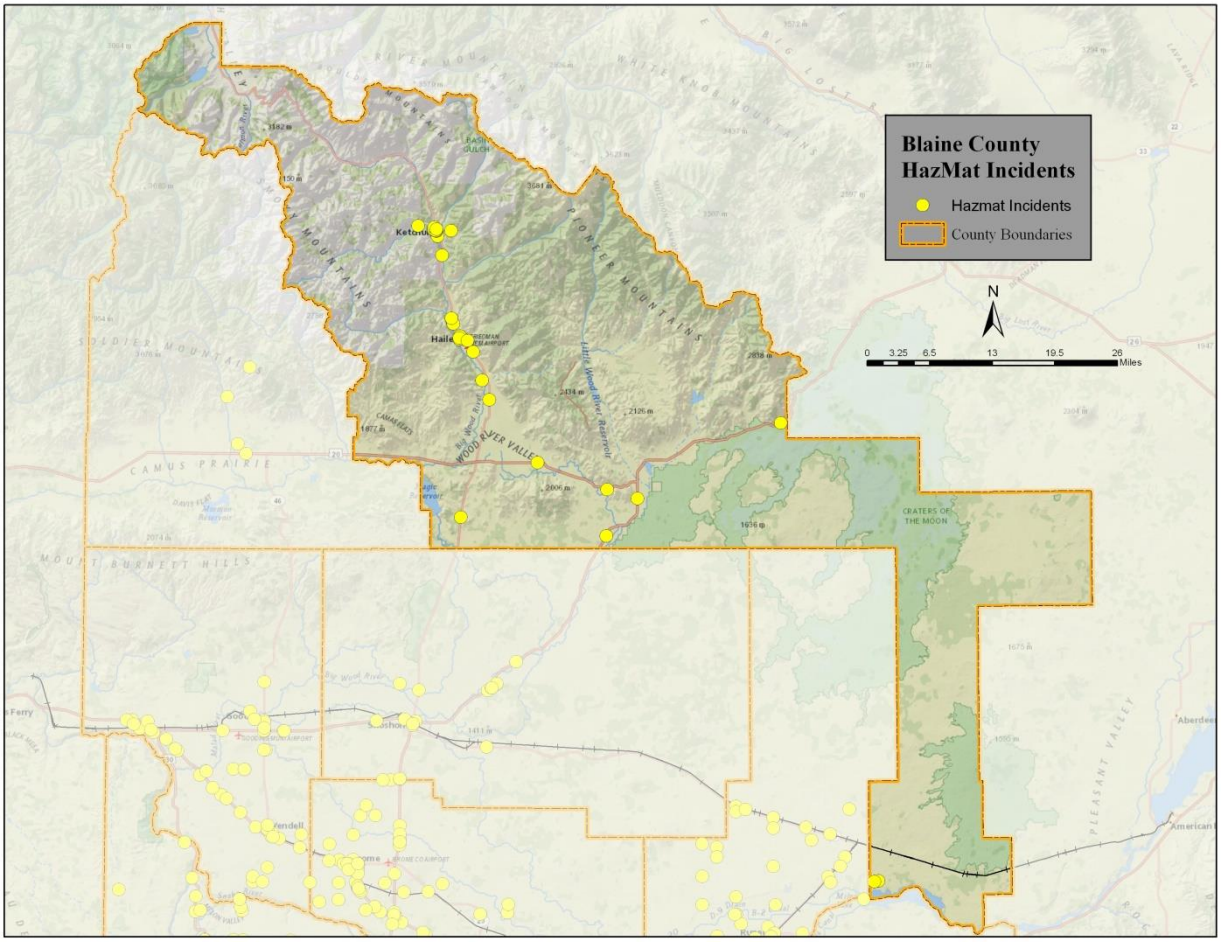
Facility	Address	City/Zip	Product	PAD (feet)
Idaho Concrete Company - Bellevue	10716 highway 75	Bellevue	Diesel Fuel Oil	2640
Amerigas Propane	11731 Hwy 75	Hailey	Liquefied Petroleum Gas	5280
Franklin United Inc. dba United Oil	118 South 5th Street	Hailey	Diesel Fuel	2640
Horizon Air	Airport Way-Friedman Airport	Hailey	Propylene Glycol	0
Qwest -Ketchum Central Office (360231)	205 East Avenue North	Ketchum	Sulfuric Acid	150
Idaho Concrete Company - Ketchum	826 n Washington	Ketchum	calcium chloride	0
Qwest -Ketchum Central Office (360231)	205 East Avenue North	Ketchum	Sulfuric Acid	150
Sun Valley Mountain Operations	420 Serenade Lane	Ketchum	Diesel Fuel	2640
Level 3 Communications - MNDKID1T - 5B	Bear Trap Cave Rd	Near Minidoka	Sulfuric Acid	150
Sun Valley Ice Rink Plant	1 Sun Valley Road	Sun Valley	Ammonia (ANHYDROUS)	7392

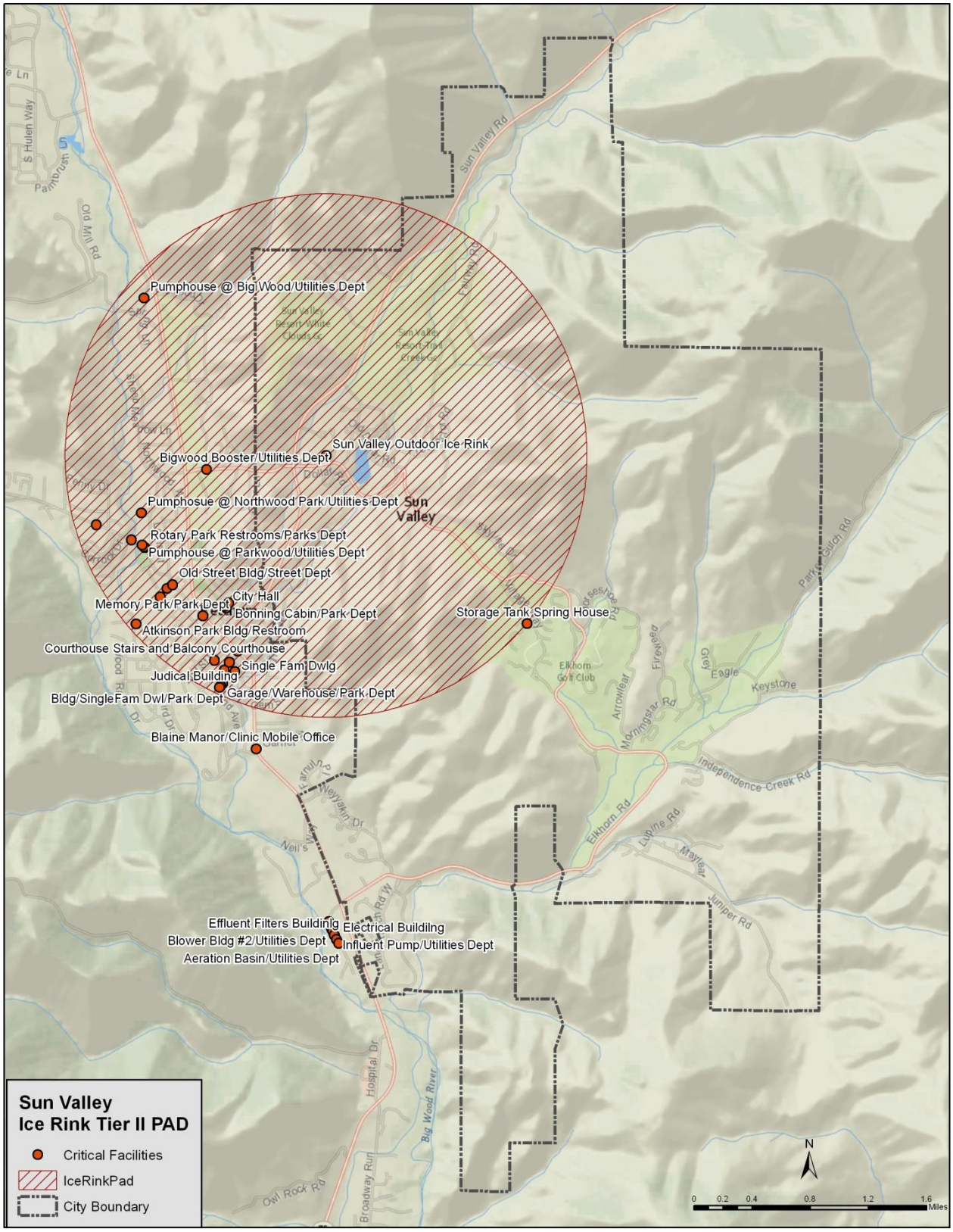


Tier II Facilities and PAD

Historical Frequencies

The following map provides the locations where hazardous material events in Blaine County occurred in Blaine County from 2010-2013.





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Impacts

Because hazardous materials are so widely used, stored, and transported, a hazardous material event could take place almost anywhere. Further, many hazardous materials are used, stored, and transported in very large quantities so that the impacts of an event may be widespread and powerful. Regulations and safety practices make such large scale events unlikely, but smaller scale incidents may have severe impacts including:

- Human deaths, injuries, and permanent disabilities
- Livestock/animal deaths
- Destruction of vegetation and crops
- Property damage and destruction
- Pollution of groundwater, drinking water supplies, and the environment
- Contamination of foodstuffs, property, land and structures
- Temporary or long-term closure of transportation routes and/or facilities
- Loss of business and industrial productivity
- Utility outages
- Clean-up and restoration costs
- Losses and inconvenience due to evacuation
- Loss of valuable chemical product

The single largest hazardous material Protective Action Zone (PAD) in Blaine County is surrounding the anhydrous ammonia storage at the Sun Valley Ice Rink. See map on preceding page. It is estimated that there are 2,444 people located in the defined PAD that may require evacuation.

Loss Estimates

Losses due to the release of Hazardous Materials is linked specifically to two (2) areas; 1) Response, including evacuation, and 2) Clean Up. Blaine County has not had a significant hazardous materials incident; however, releases of hydrocarbon fuels are a constant threat.

Hazard Evaluation

Hazardous Materials		
Profile Category	**Rating**	**Description**
Historical Occurrence	3	High
Probability	4	High
Vulnerability	2	Limited
Spatial Extent	2	Limited
Magnitude	2	Limited
Total	**13**	**Medium**

RIOT/DEMONSTRATION/CIVIL DISORDER

Description

State of Idaho statutes define "riot" as follows (Idaho Statute 18-6401 – RIOT DEFINED):

> Any action, use of force or violence, or threat thereof, disturbing the public peace, or any threat to use such force or violence, if accompanied by immediate power of execution, by two (2) or more persons acting together, and without authority of law, which results in:
>
> (a) physical injury to any person; or
> (b) damage or destruction to public or private property; or
> (c) a disturbance of the public peace;
>
> is a riot.

Also defined in the statutes (Idaho Statute 18-8102 – DEFINITIONS) is "civil disorder":

> "Civil disorder" means any public disturbance involving acts of violence by an assemblage of two (2) or more persons which acts cause an immediate danger of or result in damage or injury to the property or person of any other individual.

The term "demonstration" is not defined in this context in the Idaho statutes but the following is given for "unlawful assembly" (Idaho Statute 18-6404 - UNLAWFUL ASSEMBLY DEFINED):

> Whenever two or more persons assemble together to do an unlawful act, and separate without doing or advancing toward it, or do a lawful act in a violent, boisterous or tumultuous manner, such assembly is an unlawful assembly.

Riots are generally thought of as being spontaneous, violent events whereas demonstrations are usually planned events and are usually intended to be non-violent. Riots seem often to be motivated by frustration and anger, usually over some real or perceived unfair treatment of some group. There are instances, however, where riots have begun during celebrations and other events where the only initiating factor seems to have been the gathering of a crowd of people. The potential for rioting, then, exists any time people gather, but a number of factors are associated with the increased probability one will occur including:

- Drug and alcohol use
- Youth of crowd members
- Low socio-economic status of members
- High level of emotions
- A history of rioting on the same or similar previous occasions
- Initiating event, person, or persons

Once violent or illegal activity is initiated, it escalates, possibly at least partly because of the perception that, because all are acting together, there is little probability that any given individual will be arrested or otherwise suffer consequences. Riots may range in scope from a very few people in a small area to thousands over an entire city. Once initiated, large riots are very difficult to suppress, particularly in the United States where law enforcement is constrained by constitutional guarantees as well as personnel limits. Early and decisive action by law enforcement may be effective in suppressing a riot, but police actions may also lead to further escalation.

Historical Frequencies

There are no recorded riot events in Blaine County.

Impacts

Riots may result in loss of life, injury, and permanent disability (participants, bystanders, and law enforcement personnel) as well as looting, vandalism, setting of fires, and other property destruction. Law enforcement, emergency medical services, and medical facilities and personnel, firefighting, and other community resources may be overwhelmed and unavailable to the community at large. Transportation routes may be closed, infrastructure and utilities damaged or destroyed, and public buildings attacked, damaged or destroyed. Social and psychological effects may also cause great impacts. Lingering fear and resentment can be long-lasting and can greatly impair the ability of a community to function politically, socially, and economically.

Loss Estimates

Losses from Riot/Demonstration/Civil Disobedience primarily cause damage to community and private property. It is difficult to estimate specific losses; however, losses would be consistent with losses due to structure fires and similar incidents.

Hazard Evaluation

Civil Disobedience		
Profile Category	**Rating**	**Description**
Historical Occurrence	0	None
Probability	1	Rare
Vulnerability	2	Limited
Spatial Extent	2	Limited
Magnitude	3	Critical
Total	**8**	**Low**

TERRORISM

Description

Terrorism is an unlawful act under both Federal and State of Idaho statutes. Definitions are as follows:

U.S. Code: Title 18: Section 2331. Definitions

(5) The term "domestic terrorism" means activities that -

(A) involve acts dangerous to human life that are a violation of the criminal laws of the

United States or of any State;

(B) appear to be intended -

(i) to intimidate or coerce a civilian population;

(ii) to influence the policy of a government by intimidation or coercion; or

(iii) to affect the conduct of a government by mass destruction, assassination, or

kidnapping; and

(C) occur primarily within the territorial jurisdiction of the United States.

Idaho Statute 18-8102 – DEFINITIONS

(5) "Terrorism" means activities that:

(a) Are a violation of Idaho criminal law; and
(b) Involve acts dangerous to human life that are intended to:

(i) Intimidate or coerce a civilian population;
(ii) Influence the policy of a government by intimidation or coercion; or
(iii) Affect the conduct of a government by the use of weapons of mass destruction, as defined in section 18-3322, Idaho Code.

Cyber Terrorism Definition

(6) the politically motivated use of computers and information technology to cause severe disruption or widespread fear in society.

According to the U.S. Federal Bureau of Investigation, cyberterrorism is any "premeditated, politically motivated attack against information, computer systems, computer programs, and data which results in violence against non-combatant targets by sub-national groups or clandestine agents.

The Federal Emergency Management Agency gives the following as general information on terrorism[39]:

> "Terrorism is the use of force or violence against persons or property in violation of the criminal laws of the United States for purposes of intimidation, coercion, or ransom.
>
> Terrorists often use threats to:
>
> - Create fear among the public.
> - Try to convince citizens that their government is powerless to prevent terrorism.
> - Get immediate publicity for their causes.
>
> Acts of terrorism include threats of terrorism, assassinations, kidnappings, hijackings, bomb scares and bombings, cyber-attacks (computer-based), and the use of chemical, biological, nuclear and radiological weapons.
>
> High-risk targets for acts of terrorism include military and civilian government facilities, international airports, large cities, and high-profile landmarks. Terrorists might also target large public gatherings, water and food supplies, utilities, and corporate centers. Further, terrorists are capable of spreading fear by sending explosives or chemical and biological agents through the mail."

Acts of terrorism, then, are essentially the intentional initiation of the sorts of hazard events that have been discussed in previous sections.

Historical Frequencies

There are no recorded terrorism events in Blaine County.

Impacts

Since the events of September 11, 2001, no citizen of the United States is unaware of the enormous potential impacts of terrorist acts. The emotional impacts of fear, dread, anger, outrage, etc., serve to compound the enormous physical, economic, and social damage. The continuing terrorist threat itself has a profound impact on many aspects of everyday life in this country and on the U.S. economy.

Loss Estimates

Specific loss estimates are not provided due to security policies.

Cyber terrorism threats to the U.S. result in significant economic losses. But the threat against financial institutions is only part of the problem. Also of serious concern are threats to critical infrastructure, the theft of intellectual property, and supply chain issues.

U.S. critical infrastructure faces a growing cyber threat due to advancements in the availability and sophistication of malicious software tools and the fact that new technologies raise new security issues that cannot always be addressed prior to adoption.

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[39] http://www.fema.gov/hazard/terrorism/info.shtm

The increasing automation of our critical infrastructures provides more cyber access points for adversaries to exploit.

New "smart grid" and "smart home" products, designed to provide remote communication and control of devices in our homes, businesses, and critical infrastructures, must be developed and implemented in ways that will also provide protection from unauthorized use. Otherwise, each new device could become a doorway into our systems for adversaries to use for their own purposes.

Industrial control systems, which operate the physical processes of the nation's pipelines, railroads, and other critical infrastructures, are at elevated risk of cyber exploitation.

The FBI is concerned about the proliferation of malicious techniques that could degrade, disrupt, or destroy critical infrastructure. Although likely only advanced threat actors are currently capable of employing these techniques, as we have seen with other malicious software tools, these capabilities will eventually be within reach of all threat actors.[40]

Hazard Evaluation

Terrorism		
Profile Category	**Rating**	**Description**
Historical Occurrence	0	None
Probability	2	Medium
Vulnerability	3	Critical
Spatial Extent	3	Critical
Magnitude	4	Catastrophic
Total	**12**	**Medium**

[40] http://www.fbi.gov/news/testimony/cybersecurity-responding-to-the-threat-of-cyber-crime-and-terrorism

BLAINE COUNTY DESCRIPTION

Blaine County ranks 15th among Idaho counties in population and 7th in area. It is home to the Sun Valley Resort and relies heavily on recreation and tourism to create employment. Blaine County also has a strong agricultural industry and has an ideal climate for growing Barley of the highest quality. Other agricultural commodities include: alfalfa, wheat, oil seed, seed potatoes, sheep, horses, and cattle. Incorporated cites include Bellevue, Carey, Hailey, Ketchum and Sun Valley. Unincorporated areas include: Barite, Boulder, Broadford, Cathedral Pines, Clarendon Hot Springs, Cream Can Junction, DeWoff, Doniphan, Easley Hot Springs, Galena, Gannett, Gimlet, Hawley, Magic City, Magic Resort, Picabo, Sawtooth City, Smith Springs, Tikura, Triumph and Wapi. The odd shape of Blaine County, with its projection south to the Snake River, was established in 1890 so that the mainline of the Union Pacific Railroad would pass through the County in an effort to send tax revenue into the County.

Location

Blaine County is located in south central Idaho. The northern portion of the County is in the Sawtooth National Forest and Sawtooth National Recreation Area. Surrounding counties include Butte and Custer on the north; Camas on the west; Lincoln, Minidoka, and Cassia on the south; and Bingham and Power on the east.

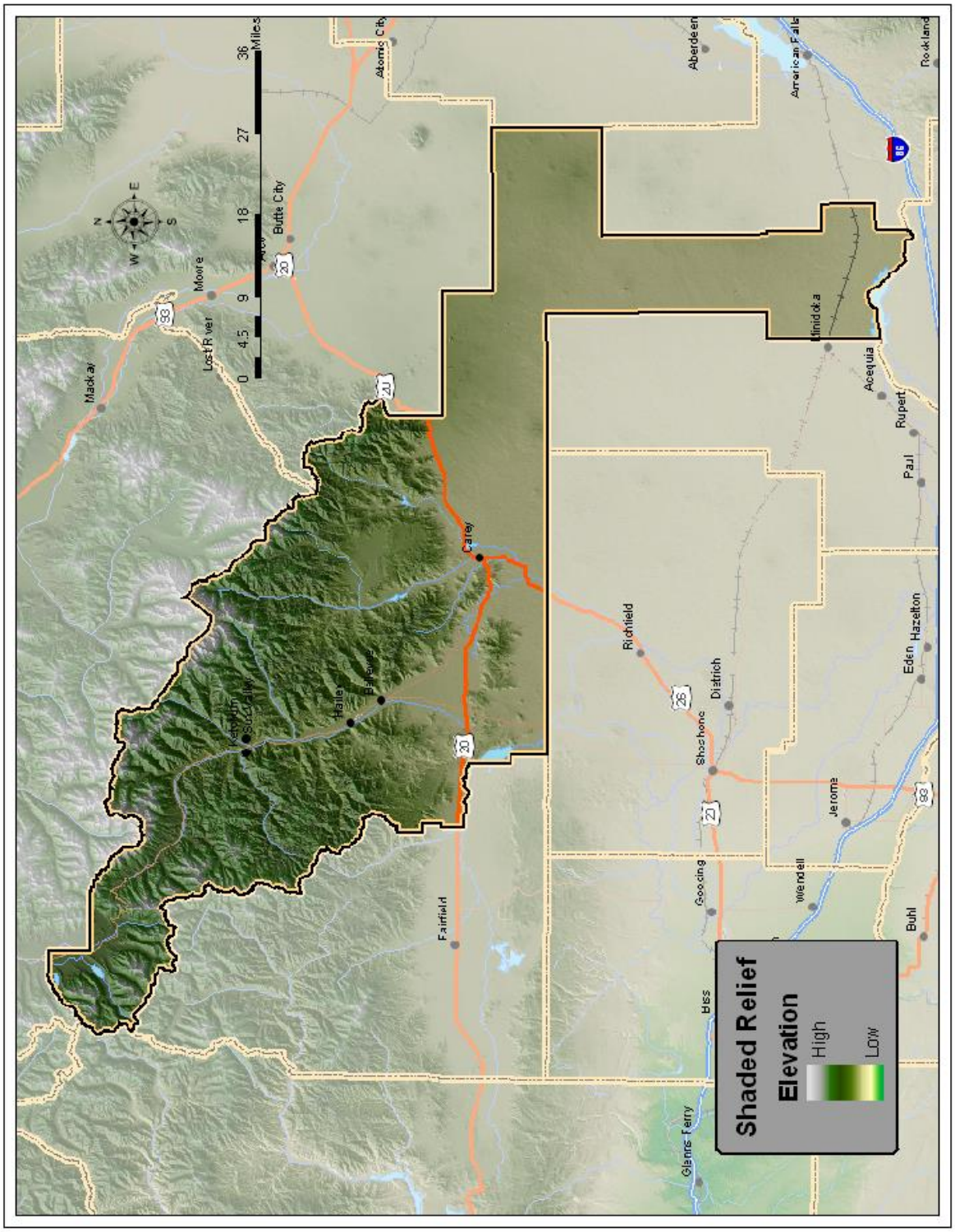
Topography and Geography

Topography in Blaine County varies greatly from the scenic high alpine country in the north to the desolate lava plains and desert mountains in the south. The Boulder and Smokey Mountains are in the northern portion of the County. The Smokey Mountains sit along the Blaine/Camas County border on the west. The Boulder Mountains sit along the Blaine/Custer County border on the east. The very southern reaches of the Sawtooth Valley are at the northern most tip of Blaine County. The Pioneer Mountains are south of the Boulder Mountains and sit along the Blaine/Custer/Butte County borders. The Wood River Valley sits between the Smokey and Boulder Mountains in the northern half of the County.

The Great Rift in the southeast portion of the County has unique lava formations similar to a lunar landscape. The Picabo Hills and Lava Hills are both located in southern Blaine County near US Highway 20.

Elevation in Blaine County ranges from 3,100 feet above sea level to 11,900 feet above sea level. Most of the populated areas are between 4,000 and 6,000 feet[41].

[41] Blaine County Fire Mitigation Plan, 2004



Blaine County Topography Map

Vegetation

Vegetation types in Blaine County are predominantly sage brush steppe, coniferous forest stands including Douglas fir and Lodgepole pine, scattered aspen stands associated with conifer stands, and cottonwood, willow, and alder riparian zones [42].

Geology

Geology in northern Blaine County is very mixed. The Pioneer Mountains contain a core of gneiss overlain by younger Proterozoic and Paleozoic metamorphic rocks. The Pioneer Mountains were uplifted along the Wildhorse detachment fault during the Eocene and Oligocene, during and after eruption of the Challis volcanic, which occupy much of the southern Boulder Mountains in the Little Wood River drainage. The upper plate of the detachment fault forms the bulk of the Pioneer Mountains and contains dark colored sand stone.

The Smokey Mountains, west of the Big Wood River, contain Paleozoic sedimentary rock of the Sun Valley group, intruded by the Cretaceous Idaho batholiths, and Eocene Challis granites. Lava flows, from the Challis volcanic, make up much of the Smoky Mountains west of Hailey and northwest of Ketchum.

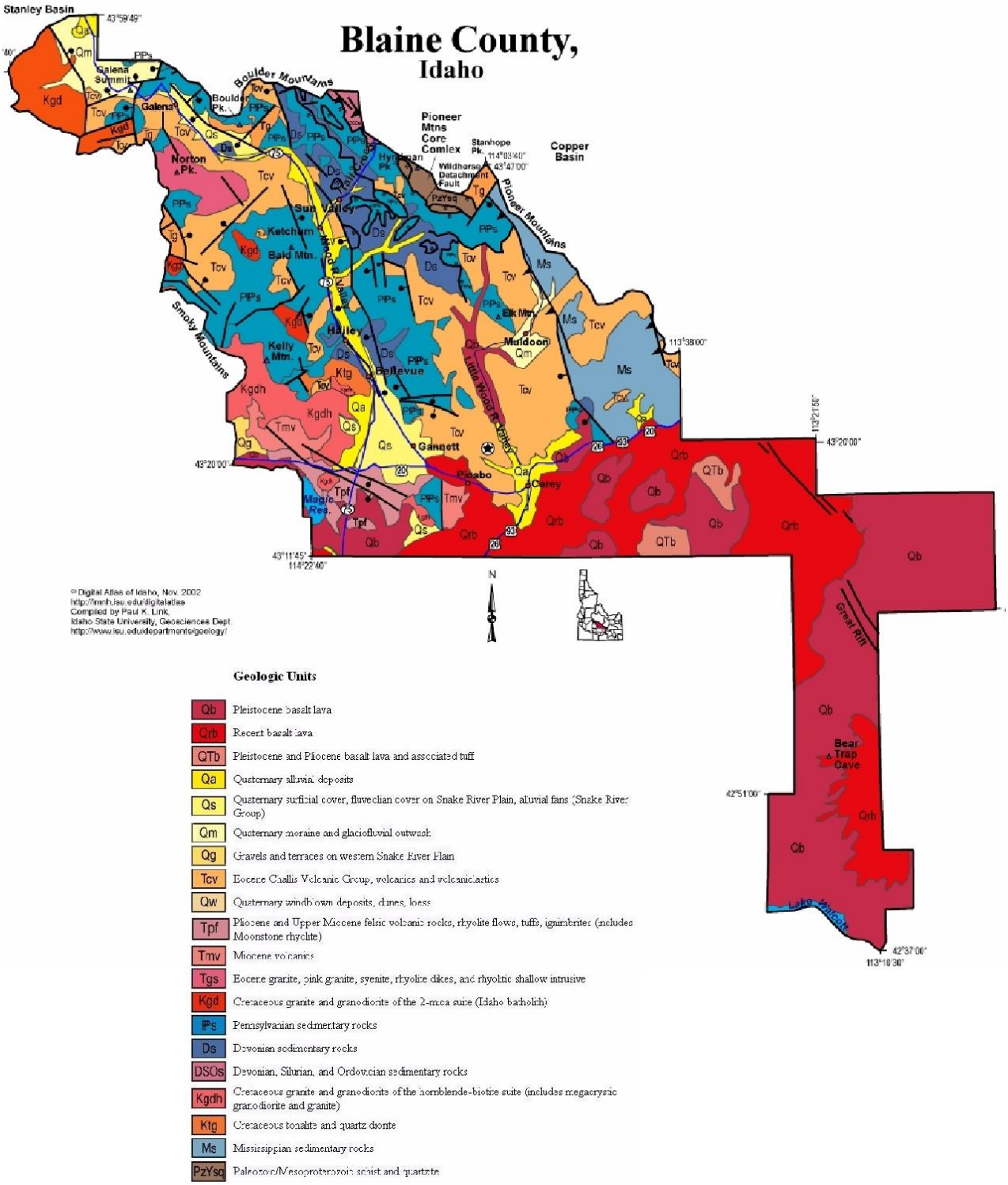
The Boulder Mountains have Eocene pink granite at the base, overlain by sedimentary rocks and lava from the Challis volcanic. They were uplifted on a west-dipping normal fault which forms the scarp from Galena Summit to the Sawtooth National Recreation Area. [43]

On the Snake River Plain in very southern Blaine County are Quaternary and Recent basalt flows. In southwestern Blaine County is the Magic Reservoir volcanic, a Miocene rhyolitic eruptive center. The Big Wood River runs through this area.

Geothermal activity in the form of natural hot springs is present in various areas of Blaine County.

The extent to which geothermal activity occurs in the area also suggests the possibility of additional geothermal sites as yet undiscovered. Utilization of these sites as an energy source may be of major importance to the area in the future.

[42] Blaine County Fire Mitigation Plan, 2004
[43] http://imnh.isu.edu/digitalatlas/counties/blaine/geomap.htm



Blaine County Geology Map

Guyer Hot Springs, West of Ketchum, was developed in 1929. Still in use today, this system is utilized to heat homes and domestic water. To a lesser extent, the Hailey Hot Springs West of Hailey has been developed for similar use. Clarendon, Easley, and other springs are, or have been, developed for public and private recreational use. In most cases the full resource potential of these sites has not been realized.

Given the recreational orientation of the area and the potential need for additional energy sources, known and potential geothermal sites constitute a secondary natural resource[44].

Climate

Blaine County has a 4-season climate. Summers have mild nights and warm days; winter has cold temperatures and snow. A plant killing freeze is received in the upper Wood River Valley by July 4 and again by August 20. Precipitation levels generally decrease from the higher mountain regions to the lower desert regions.

The following tables list the average maximum and minimum monthly temperatures, as well as monthly precipitation and snowfall for two weather stations in Blaine County: Hailey and Galena Summit.

Average Maximum Temperature												
Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
30.2	36.5	42.0	55.2	65.5	74.4	84.8	83.6	74.1	61.5	44.4	33.0	57.1
Average Minimum Temperature												
Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
7.8	12.7	18.8	28.8	36.6	42.8	48.9	47.4	39.3	31.2	21.0	11.3	28.9
Average Total Precipitation												
Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
2.58	1.82	1.23	1.05	1.49	1.31	0.43	0.63	0.75	0.72	1.57	2.30	15.89
Average Total SnowFall												
Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
25.4	15.1	7.9	1.1	0.8	0.0	0.0	0.0	0.1	0.8	7.5	22.5	81.1

Hailey Climate
Source: http://www.wrcc.dri.edu/summary/Climsmsid.html

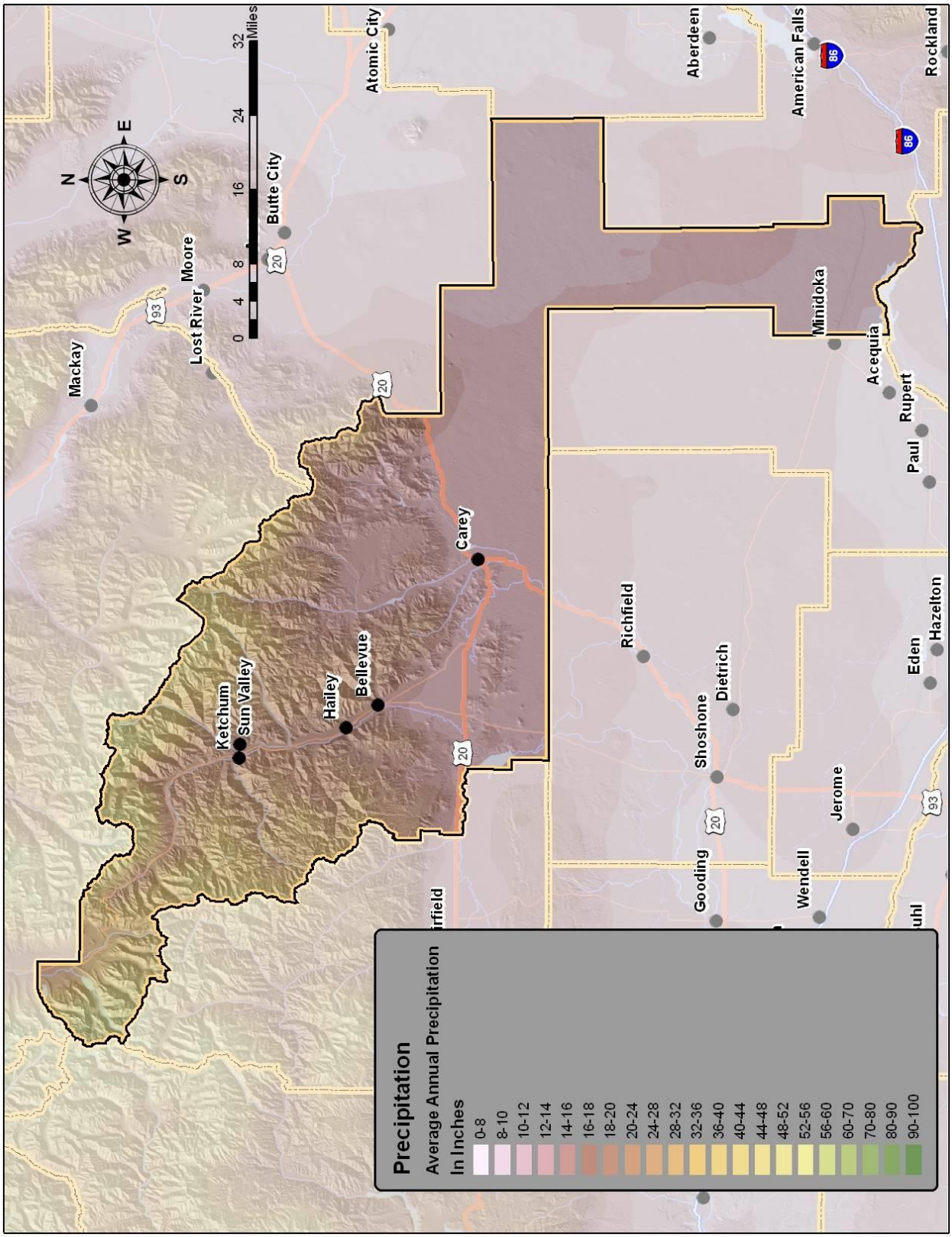
Average Maximum Temperature												
Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
31.6	34.5	38.8	44.9	56.8	65.5	76.3	76.4	66.8	55.3	39.0	29.5	51.3
Average Minimum Temperature												
Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
4.4	4.4	9.0	17.4	25.7	31.5	34.7	34.1	27.0	21.5	11.1	2.2	18.6

[44] Blaine County Comprehensive Plan, 1994

Average Total Precipitation												
Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
3.56	2.42	2.73	1.73	1.55	2.02	0.95	0.99	1.12	1.37	2.60	3.70	24.74
Average Total SnowFall												
Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
29.8	30.0	35.0	10.8	1.3	0.7	0.0	0.0	0.6	7.1	22.6	44.9	182.8

Galena Summit Climate
Source: http://www.wrcc.dri.edu/summary/Climsmsid.html

The map below shows average annual precipitation for Blaine County. Some portions of Northern Blaine County receive as much as 40 inches of rain annually, while southern Blaine County receives approximately 8-14 inches annually.

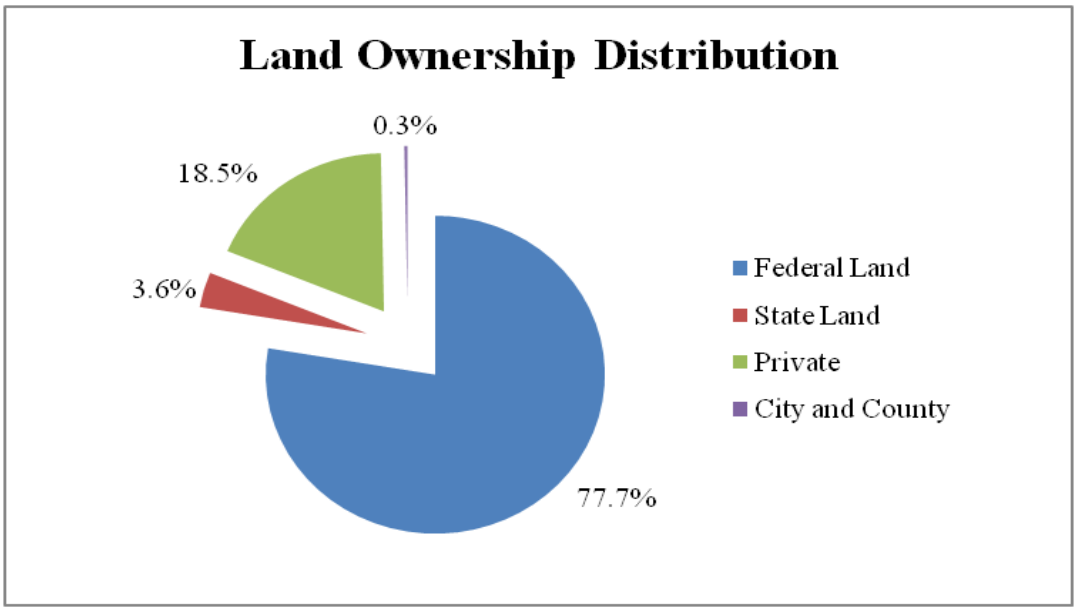


Blaine County Precipitation Map

Official Use Only

Land Ownership

Blaine County contains approximately 1,699,200 acres. The Federal Government owns approximately 78% of land in Blaine County. The US Forest Service owns land in northern Blaine County. The National Park Service (NPS) owns Craters of Moon National Monument and Preserve in Southern Blaine County. The Bureau of Land Management owns land in central and southern Blaine County. The BLM and the NPS jointly manage the area of Craters of the Moon National Park and Preserve. The State of Idaho owns approximately 4% of Blaine County, mostly in Central and Southern Blaine County scattered throughout BLM lands. Private lands consist of approximately 19% of Blaine County and are concentrated in the Wood River Valley and southern Blaine County.



Blaine County Land Ownership Distribution
Source: Idaho Department of Labor

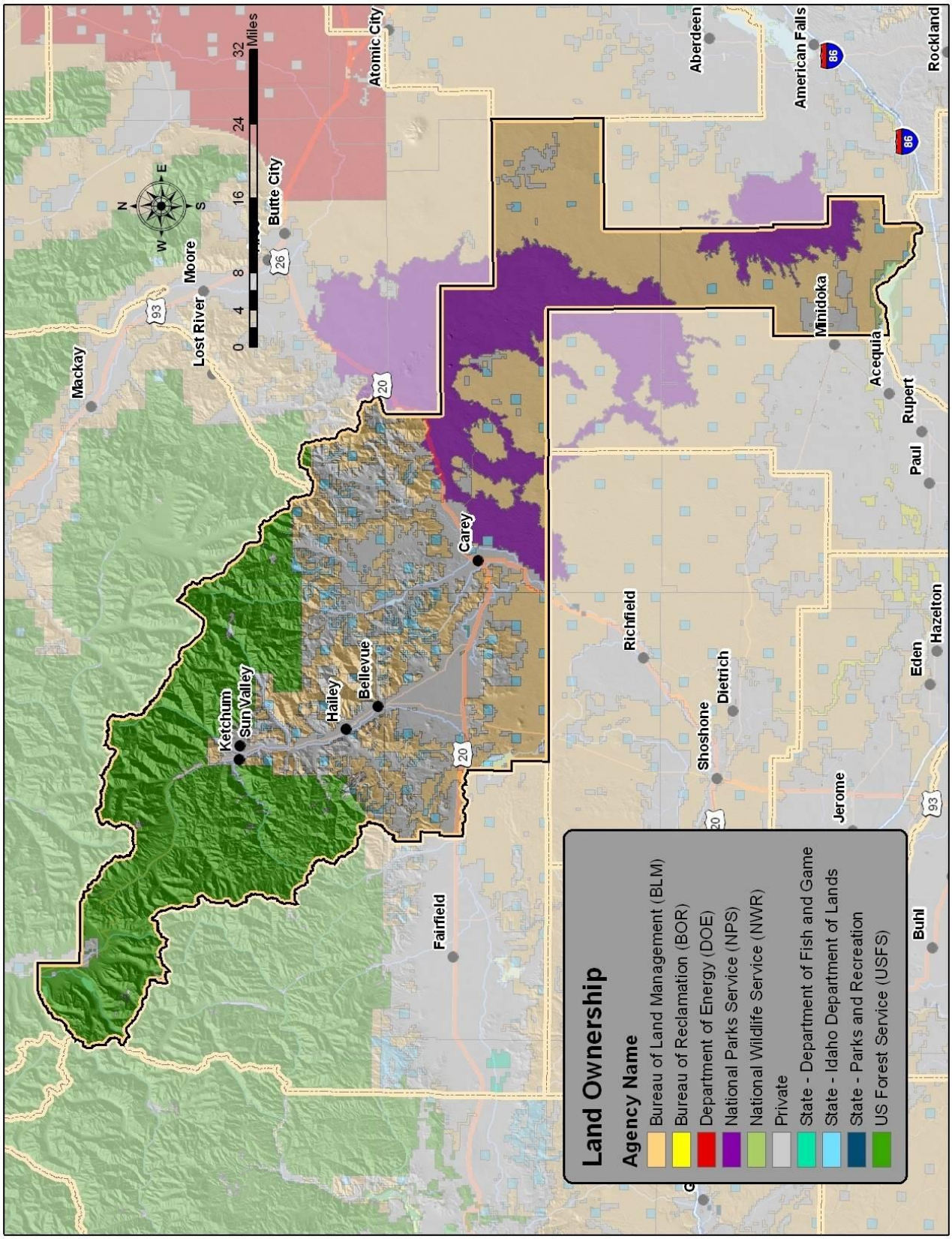


Figure 2.5

Blaine County Land Ownership Map

Land Use and Natural Resources

Land use in Blaine County is dominated by Rangeland and Forest land. Agricultural land only makes up 5.8 percent of land use. Barren land makes up 18.6 percent of Blaine County, and is mostly found in the lava fields of southern Blaine County.

Although not shown on the land use type table, recreation is another important land use in Blaine County. The large amounts of federal land and the private recreation establishments attract a large number of visitors each year.

Historically, mining was a significant natural resource to Blaine County. The Idaho Geological Survey has over 400 mines listed for Blaine County on their Mines and Prospects Database.

Land Use Types		
	Acres	**Percent of Total**
Urban Land	3,000	0.2%
Agricultural	99,700	5.8%
Rangeland	1,035,800	60.7%
Forest	238,600	14.0%
Water	12,000	0.7%
Wetland	0	0.0%
Barren Land	318,400	18.6%

Blaine County Land Use Types
Source: Idaho Department of Labor

History

Prospectors first entered the Wood River area soon after the beginning of the 1862 Boise Basin mining Boom. The County saw its first settlers in 1879 when farmers arrived in the Spring Creek area. The 1880 Wood River mining boom brought in a large influx of people including a significant number of Irish, Welsh, German, and Chinese immigrants. Towns like Bellevue and Hailey grew overnight in the frantic scramble for gold, silver, and lead. A smelting plant was constructed in Hailey in 1881, and smelting operations followed in other towns including Ketchum. The railroad arrived in 1884, and the mining boom reached its peak soon after. The boom began to lose its momentum when silver prices fell in the late 1880's and early 1890's. In 1895. established by combining Alturas and Logan Counties, Lincoln County was created out of Blaine County. Hailey was established as the county seat of Blaine County. During the early 1880's the communities of Bellevue, Carey, Picabo, and Gannet were also established.

During the 1880's Blaine County had a significant sheep industry as well. By 1900 more than two million sheep had been raised or trailed through the Wood River Valley. Between 1910 and 1920 more than one million head of sheep a year were trailed through the area. During this time Ketchum was one of the largest sheep shipping centers in the United States.

Later, when prices for metals stabilized, the North Star, Triumph, Muldoon, and Broadford mines once again became the largest employers of the county's male population. This remained true until the years of the Great Depression, which closed most of the area's major mines. The late 1930's and early World War II years saw a return of the mining prosperity. However, by 1957 many mines were closed and in 1970 the last major ore producer, The Silver Star Queen in the Broadford area closed.

Sun Valley resort was constructed in 1936 by the Union Pacific Railroad as an attempt to increase traffic on the passenger line. Steve Hannagan, UPRR publicist, launched a publicity campaign, and people, including celebrities from Hollywood, began to pour into the Wood River Valley. This was the start of the recreation boom for Blaine County which has continued to the present.

Since the original Sun Valley Resort opened, the County has become an important summer and winter recreation resort and year round convention facility, as well as a much-desired place to live[45].

Demographics

Blaine County has experienced strong, steady growth over the last decade. The population increased from 17,707 in 1996 to 21,501 in 2006 and to 21,329 in 2013. During the period between 1996 and 2006, there was an increase of 21.4 percent, making Blaine County the fastest growing county in south central Idaho for the last decade; since 2006 the population dropped by 0.8%. This drop is not considered significant and the population appears to be stabilized.

The table below shows the population change for the past four years for the County as well as each incorporated city.

Location	Population 2010	Population 2013	% Change
Blaine County	21,376	21,329	0.002%
City of Bellevue	2287	2286	0.0004%
City of Carey	604	600	0.007%
City of Hailey	7960	8014	0.007%
City of Ketchum	2689	2706	0.006%
City of Sun Valley	1406	1408	0.001%

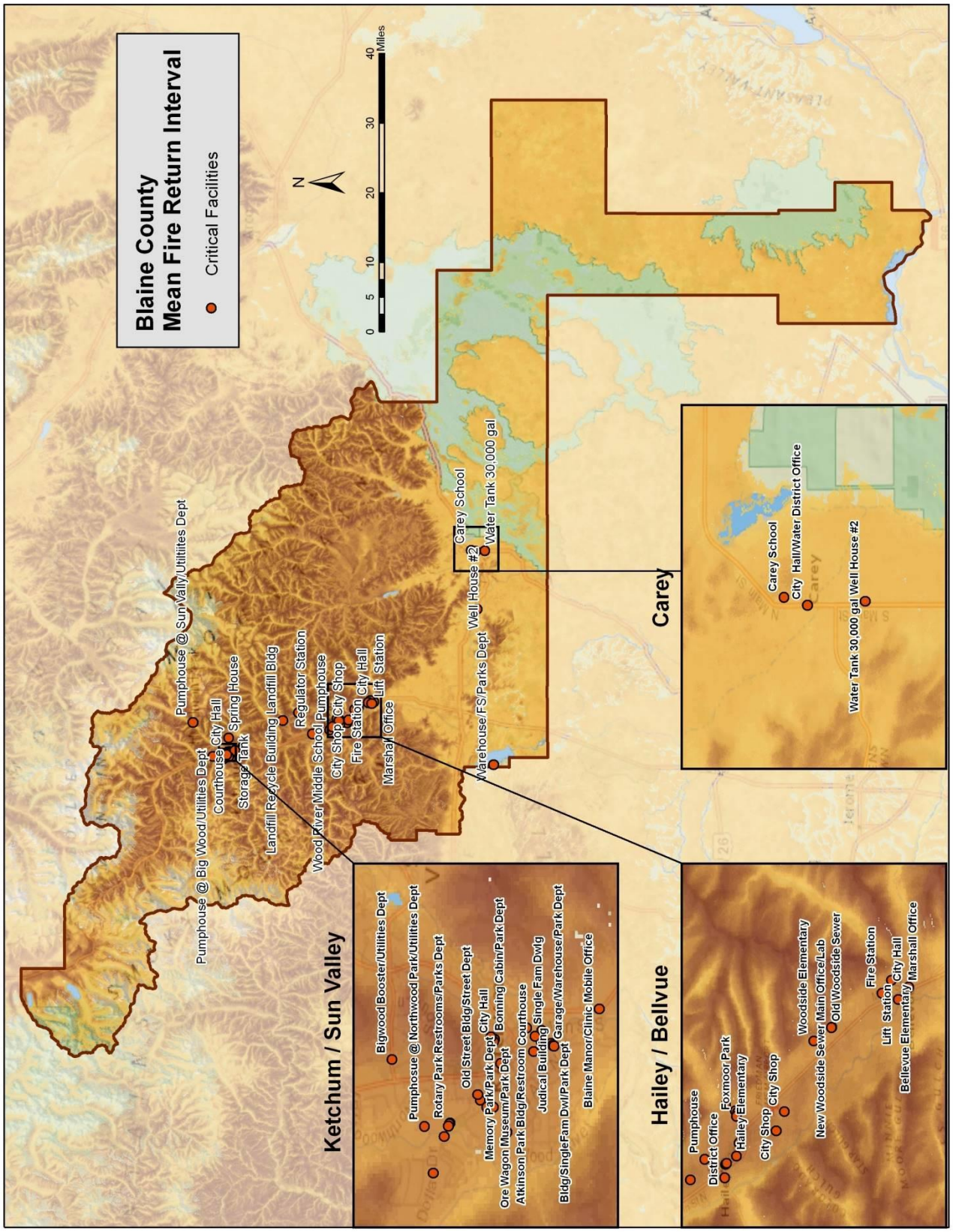
Between 1990 and 2000, the County experienced a 40.1% increase in population. Sun Valley, Hailey, and Bellevue increased faster than the County, with Hailey showing the most increase at 73.4%. Ketchum showed the least increase at 19.0%. During 2000-2006 the County increased by 13.2 %. Bellevue and Hailey both increased faster than the County. with Hailey again showing the most increase at 25.0%. Sun Valley and the "rest of the County" showed small increases of 1.8% and 6.0% respectively. Carey decreased by 1.0%. In 1990, 35% of the County was living in an unincorporated area; in 2006 only 29% of the population was living in an unincorporated area. In 2013 the population living outside of incorporated cities was 42.1% an increase of 13.1%. As demonstrated above the population has remained relatively stable in the County and incorporated cities over the past 3-4 years.

[45] Blaine County Comprehensive Plan, 1994

BLAINE COUNTY VULNERABILITIES

County Facilities

Address	Description	Value
206 1st Ave, Hailey	Courthouse	$3,151,000
	Courthouse Stairs and Balcony	$228,498
Hot Springs Parking Lot, Ketchum	Boat Dock Bldg	$25,000
E 1/2 lots 5,6,7,8, Blk 10	Carey County Shop	$25,000
SWSE, Sec 14, Hailey	County Shop	$400,000
1 S 21 E, Carey	Fire Station	$60,000
Glendale Road, Hailey	Glendale Shop	$300,000
Lots 13 Thru 22, Hailey	Hailey Courthouse & Sheriff Office	$792,000
Lots 4,5,6, Hailey	Hailey Judicial Building	$237,600
Lots 13&14, Hailey	Hailey McBride Building	$200,000
201 2nd Ave S, Hailey	Judical Building	$1,935,000
Ohio Gulch, Ketchum	Landfill Bldg	$90,000
	Landfill Recycle Building	$260,000
Blaine County, Hailey	Magic Sub Bldg	$20,000
302 1st Ave S, Hailey	McBride Bldg	$125,000
706 S Main Street, Hailey	Mobile Office	$50,000
	Blaine Manor/Clinic	$6,723,000
219 1st Ave South, Hailey	New County Courthouse	$4,500,000
210 1st Ave S, Hailey	Sheriff's Ofc & Jail	$1,756,000
Rota Run, Hailey	Warming Hut	$80,000
City of Carey	Road & Bridge Shop	$402,000
	Annex to Main Bldg & Bridge Bldg	$71,843
	Weed Bldg	$55,000
	Fair Exhibit 4H Bldg	$45,000
	Fair Exhibit Bldg #2	$128,000
	Fair Loafing Shed	$2,500
	Fair Stock Bldg #1	$20,000
	Fair Stock Bldg #2	$27,000
	Fair Storage Bldg	$5,000
	Weed Shop-Ofc Storage	$38,671
		$21,753,112



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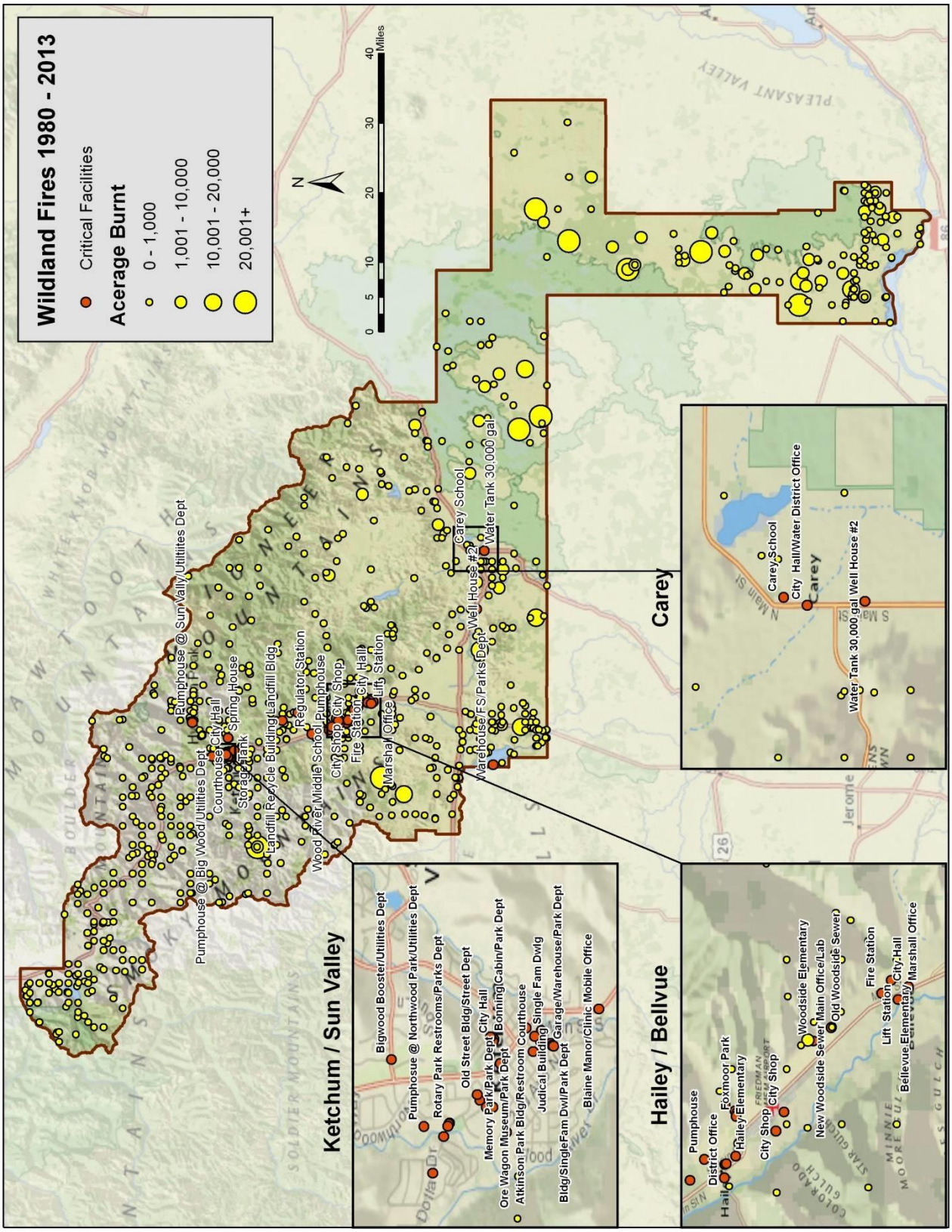


Official Use Only

PUBLIC SERVICE FACILITIES

Sewer and Water

Water and sewer systems in Blaine County are under the jurisdiction of the South Central Health District.

Communities which are currently served by municipal water systems include: Ketchum, Sun Valley/Elkhorn, Hailey/Woodside, Bellevue, Picabo, and Carey. In addition to the municipal systems there are numerous community and non-community water systems serving trailer parks and subdivisions. Community water systems are those which serve at least ten (10) households or twenty-five residents. Non-community water systems serve less than ten (10) households or less than twenty-five (25) permanent residents. The majority of county residents use domestic wells for their water source.

Communities which are currently utilizing municipal sewage treatment plants include: Ketchum, Bellevue, Sun Valley/Elkhorn, Hailey/Woodside, and Carey area. In addition, Blaine County has several subdivisions, a major rest stop area at Timmerman junction, and trailer parks which are served by common underground sewage disposal fields or package plants[46].

Solid Waste Management

Blaine County currently operates landfills at Ohio Gulch near Hailey, and a transfer station at Carey.

PUBLIC UTILITIES

Intermountain Gas provides natural gas to residents and commercial customers in the Wood River Valley from the Sawtooth National Recreation Area on the north, to Bellevue on the South.

CenturyLink provides telecommunications services for residents and commercial customers in the Wood River Valley and Picabo areas.

Citizens Telephone Company provides telecommunications for residents and commercial customers in the Carey area.

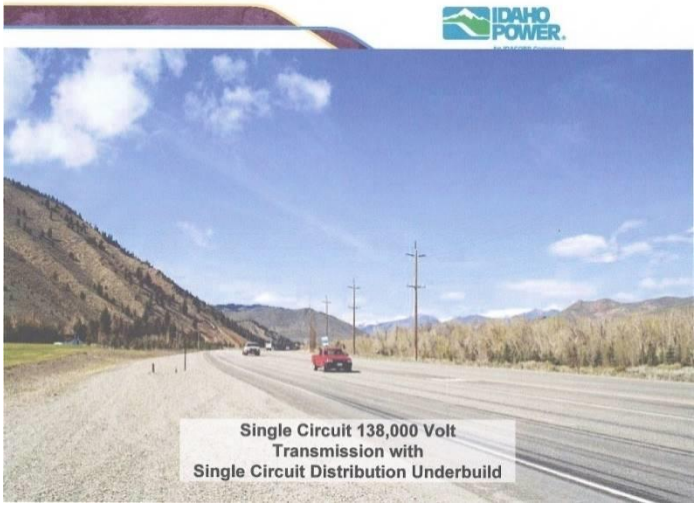
Direct Communications provides telecommunications for areas in the County south of Picabo.

Cox Communications provides telecommunications in the Hailey area.

[46] Blaine County Comprehensive Plan, 1994

Electrical Power

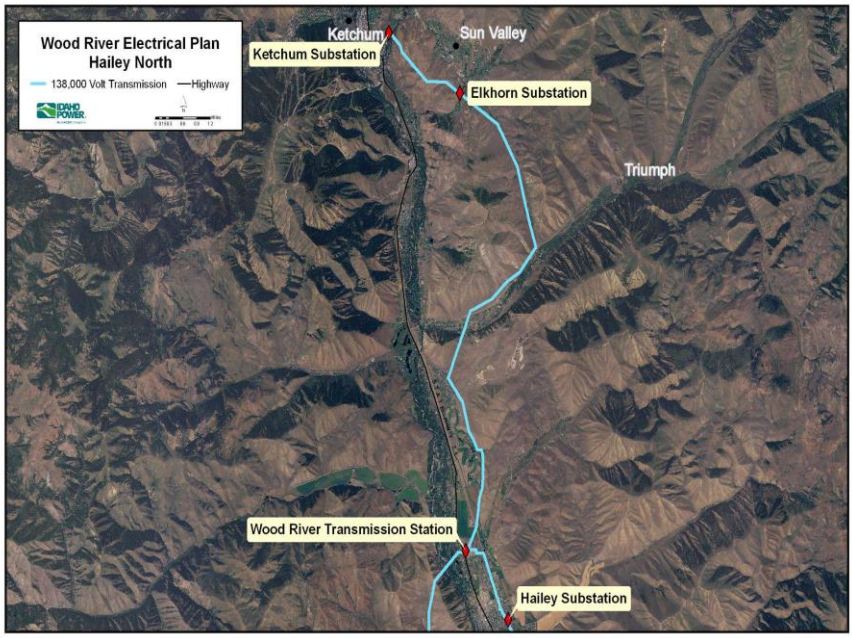
Idaho Power serves the residents and commercial customers of Blaine County, with the exception of the Stanley Basin, with electrical power. The Stanley Basin, in the very northern tip of the County, is served by the **Salmon River Power Cooperative**.



Power outages are an *extremely high concern* for Blaine County. Various natural and manmade disasters can, and do affect the electrical infrastructure in the County. Currently there is no redundancy built into the major transmission lines that feed electricity into the County. To alleviate the consequences in the event of a power outage redundancy needs to be included in the overall structure of the power grid. This will need to be done in cooperation with Idaho Power and the Salmon River Power Cooperative.

The following hazards pose a threat to the electrical infrastructure in Blaine County.

- Severe Winter Storm
- Lightning
- Hail
- Tornado
- Straight Line Wind
- Earthquake
- Landslide/Mudslide
- Avalanche
- Wildland Fire



Of the aforementioned hazards seven (7) are surface hazards; they occur above ground, and one (1), earthquake, occurs below ground, but affects infrastructure both above and below ground. The existing transmission lines are run above ground, which is a standard procedure.[47]

[47] Idaho Power, Wood River Electrical Plan. December 2007, Pg 15

The southern half of the Wood River Valley, from Hailey south, is served by two transmission lines, giving it redundant power service a majority of the year. However, the northern part of the Valley is served by a single transmission line. When a storm, accident or wild fire damages the line, there is no alternative way to provide power to the Ketchum/Sun Valley area. Idaho Power maintains and patrols this single line to a much higher standard than most other transmission lines in its service territory for just this reason. The line is, however, over 50 years old and will require even greater care in the future.

The two transmission lines serving as far north as Hailey provide better dependability than would a single transmission line. Presently, the combination of these two lines can serve the most extreme peak usage in the Valley at any time. However, the lines individually do not have the capability to serve the entire valley load at winter peak. This means that if one of the lines was to be taken out-of-service during the winter when Valley loads are the highest, the remaining line would not be able to carry the entire Valley load. The load would have to be reduced through the use of rotational outages for the duration of the outage. Depending on the cause and extent of the damage that caused the line to go out-of-service, the rotational outages could extend for several days.

If the transmission line serving from the Wood River Transmission Station north to Ketchum/Sun Valley is taken out-of-service at any time of year, there would be no way to serve most of the load in the north end of the Valley. As mentioned before, an outage of this line could cause potential hardships to the citizens and businesses of the north Valley. Idaho Power maintains and patrols this line to a significantly higher degree than it does most other transmission lines in the Idaho Power system. But as this line ages, it will become more and more difficult to maintain its dependability. The line was built in 1962 and as the years go by, it can be expected that more failures will occur. And no matter how much maintenance is done on this line, forces of nature can cause it to fail.

Historically power outages have been the most costly consequence of natural disasters in Blaine County. By exposing the transmission lines to natural hazards that may occur in the area, it may cause extenuating circumstances. An acceptable method of mitigation is to bury the transmission lines to protect them from events when they occur. This strategy has successfully been used in Jackson County, Missouri and in the City of Tallahassee in Leon County Florida to reduce risk to the electrical system. According to the Wood River Electrical Plan:

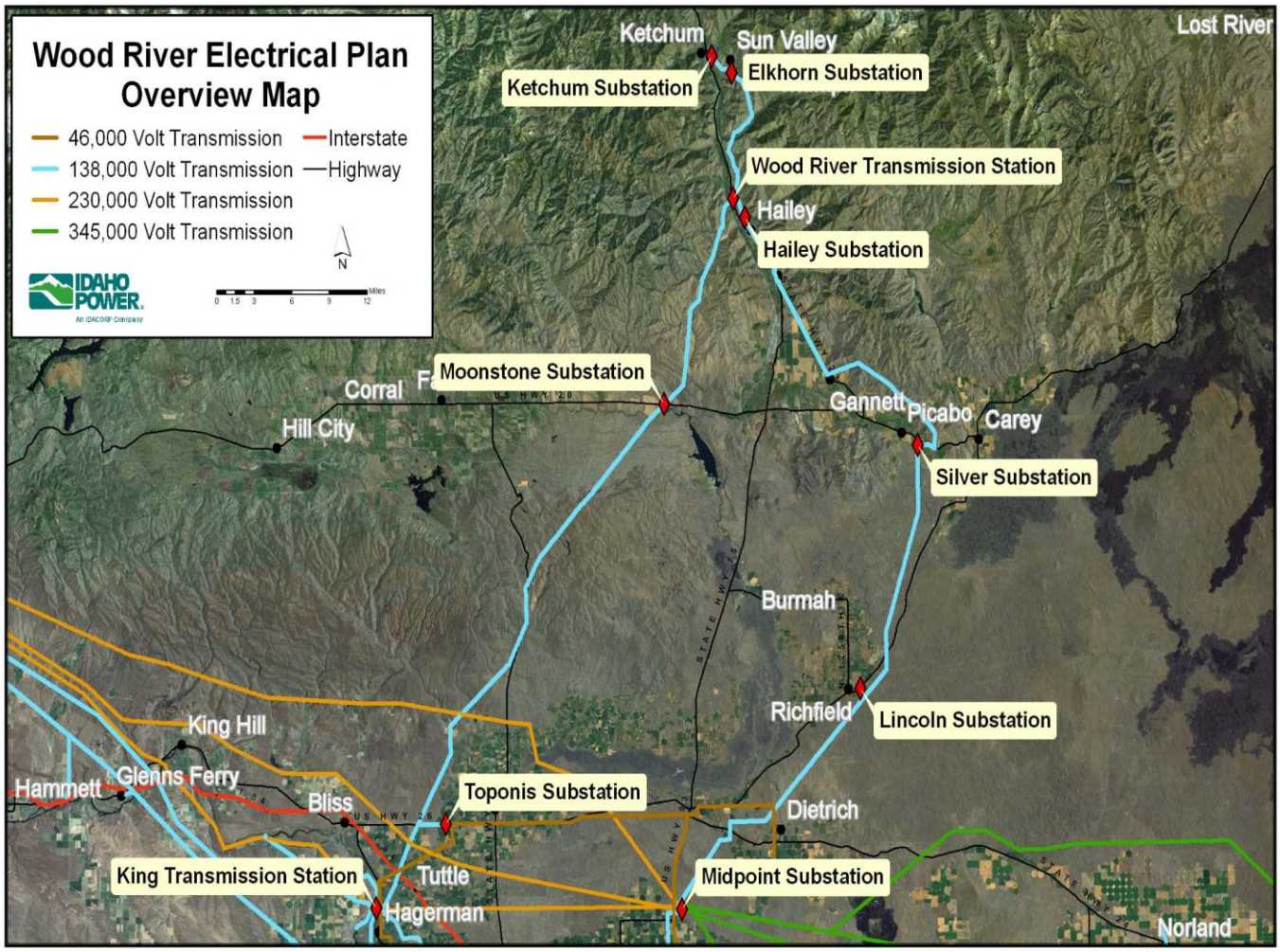
> "Idaho Power cannot construct underground facilities unless there are extenuating circumstances that would require it. These circumstances could include environmental issues, or land availability issues."[48]

Though it is not a common practice to construct underground facilities, because of extenuating circumstances, such as risk posed by natural hazards, this measure can be taken.

The Wood River Electrical Plan was developed through a collaborative process involving Idaho Power and a local Community Advisory Committee (CAC) in 2007 and referenced above. The purpose of the Plan is to identify the needed electrical system improvements

[48] Idaho Power, Wood River Electrical Plan. December 2007, Pg 15

to meet the Wood River Valley's electrical needs through build out. The CAC refined the Plan through 2012 based on stakeholder and public input from 40 presentations, 17 jurisdictional meetings, and 4 open house/ public presentations.



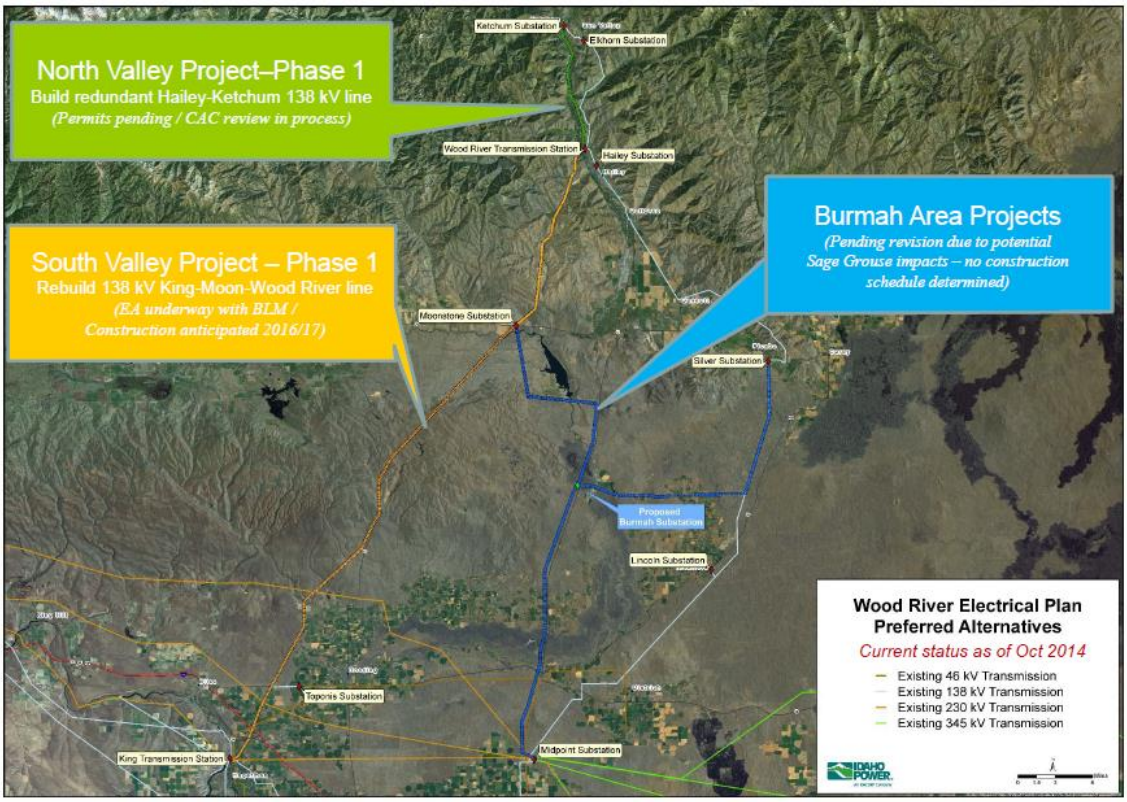
The CAC's priority since 2007 is Reliability, provided through redundancy. The recommendations for system improvement do not increase the amount of energy into the Valley, regardless of the energy source. Redundancy recommendations can run concurrently with renewable projects. Improvements strive to balance the "community's" tolerance for risk of an outage with viable solutions. The overall goal is to identify a feasible and fundable solution that meets energy reliability and community needs.

The CAC's Design Concept Recommendations include the need to improve reliability and reduce outage risk by:

- Strengthening the two existing 138 kV lines south of Hailey

- Adding a redundant 138 kV line between Hailey and Ketchum
  - Alternatives for the redundant 138kV line include:
    - Retaining the existing transmission line and locate the redundant line on a separate route from the existing line
    - Combining the new transmission line with existing distribution lines on new steel poles along the highway (results in a single line of poles)
    - Minimizing pole height as much as possible
    - Incorporating double circuit transmission in short distances only to reduce new visual impacts
    - Providing underground design options that respond to local aesthetic concerns[49]

A map illustrating the options is presented below.



Wood River-Ketchum 138kV line outage history 1/1/1995-9/22/2014

[49] Wood River Electrical Plan Background and Status, October 2014

Facility	Off Date Time	On Date Time	Duration (hr:min)	Cause Description
WDRI-KCHM 138kV	5/31/95 15:02	5/31/95 16:46	1:44	General Maintenance
WDRI-KCHM 138kV	6/17/97 17:53	6/17/97 17:53	Sev Sec	Lightning
WDRI-KCHM 138kV	7/30/98 18:40	7/30/98 18:44	0:04	Lightning
WDRI-KCHM 138kV	8/14/98 15:08	8/14/98 15:13	0:05	Unknown
WDRI-KCHM 138kV	1/1/04 17:17	1/1/04 17:17	Sev Sec	Adverse Weather
WDRI-KCHM 138kV	1/1/04 17:23	1/1/04 17:23	Sev Sec	Adverse Weather
WDRI-KCHM 138kV	1/1/04 17:44	1/1/04 17:54	0:10	Adverse Weather
WDRI-KCHM 138kV	10/11/04 0:04	10/11/04 1:52	1:48	General Maintenance (due to Vandalism)
WDRI-KCHM 138kV	2/18/05 18:58	2/18/05 19:56	0:58	Equipment Failure
WDRI-KCHM 138kV	12/24/09 22:25	12/25/09 10:05	11:40	Weather
WDRI-KCHM 138kV	9/27/11 0:04	9/27/11 5:53	5:42	Maintenance
WDRI-KCHM 138kV	6/4/14 14:40	6/4/14 15:26	0:46	Loss of Supply - Transmission
WDRI-KCHM 138kV	7/15/14 16:28	7/15/14 16:28	0:00	Loss of Supply - Transmission
WDRI-KCHM 138kV	8/12/14 17:35	8/12/14 19:41	2:06	Unknown

Outage Type	Total events	Occ/yr	Duration (min)	Duration/Occ (min)
maintenance	3	0.152	554	184.67
sustained unplanned	3	0.152	189	63.00
momentary unplanned	2	0.101	na	
loss of Southern 138kV (mom and sustained)	6	0.304	756	126.00
Yrs of history =	19.74			
Begin Date:	1/1/1995	End Date:	9/22/2014	

Idaho Power Outages 1995-2014

WATER RESOURCES

Surface Water

The two major rivers in Blaine County are the Big and Little Wood Rivers. The Big Wood River begins near Galena Summit and flows down the Big Wood River Valley through Ketchum, Hailey, and Bellevue. The Little Wood River begins in northern Blaine County Hyndman Peak. It flows down the Little Wood River Valley just east of the Big Wood River Valley. Smaller rivers and creeks include Camas Creek, Silver Creek, and Fish Creek.

Blaine County has numerous alpine lakes and reservoirs. The largest lakes are Alturas Lake, Pettit Lake, and Alice Lak, all found on the very northern tip of Blaine County. Large reservoirs include: Magic Reservoir at the confluence of Camas Creek and the Big Wood River, Carey Lake on the Little Wood River, and Fish Creek Reservoir on Fish Creek.

Ground Water

The southern half of Blaine County is underlain by the Snake River Plain Aquifer. The area of the Big Wood River Valley is underlain by a valley-filled aquifer, which is an unconsolidated aquifer that holds water in pore spaces between grains of sand and gravel. The Snake River Plain Aquifer is a consolidated aquifer that holds water in the cracks and pore spaces of solid basalt rock.

Irrigation

Company Name	Irrigation Acres	Source
Little Wood River Irrigation District	9,549 Acres	Little Wood River Reservoir
Lake Creek Meadows Homeowners Assn Inc	96.98 Acres	
Baseline Canal Co.	3,469 Acres	
Fish Creek Reservoir Co. Inc.	10,328.3 Acres	Fish Creek Reservoir
American Falls Reservoir Dist. #2	403.6 Acres	American Falls Reservoir

Blaine County Irrigation Companies

TRANSPORTATION

Major routes through Blaine County include US Highway 93/26, US Highway 20, and Idaho State Highway 75. US Highway 93/26 is a north/south route that connects the County with Shoshone and Twin Falls to the south, and Arco and Challis to the north via the City of Carey. US Highway 20 is an east/west route that connects the County to Mountain Home to the west and joins US 93/26 at Carey. State Highway 75 is a north/south route that connects the County to Shoshone to the south and Stanley to the north via the Big Wood River Valley. Loss of access to Highway 75 would be significantly detrimental to the Big Wood Valley.

Approximately 450 miles of local roads are maintained by the County, of which approximately 125 are paved. Most of these county roads originally serviced the first settler's farms or mines. They primarily follow section lines dividing farms and ranches, or run up the canyons off the Big Wood River[50].

ROADWAYS

	Local Roads	Seasonal Roads	State Highways	US Highways	Total
Miles	552	384	80	58	1,074

Roadways in Blaine County

BRIDGES

Owner	Name	Bridge Class	Year Constructed	Value
City Highway Agency	STC2815;WARM SPRNG	HWB3	1972	$3,263.98
	BROADWAY BLVD	HWB3	1929	$2,993.76
	CITY STREET	HWB4	1995	$2,930.26
	ASPEN DRIVE	HWB4	1991	$2,358.72
Subtotal Value				**$11,546.71**
County Highway Agency	STC 2810	HWB4	1998	$1,439.86
	STC 2814	HWB3	1956	$1,083.46
	STC 2814	HWB3	1978	$4,604.20
	STC 2815	HWB3	1955	$1,945.30
	STC2816;BULLION ST	HWB3	1972	$4,839.91
	STC2818;TRIUMPH RD	HWB3	1974	$4,839.91
	STC 2822	HWB3	1965	$1,162.51

[50] Blaine County Comprehensive Plan, 1994

Owner	Name	Bridge Class	Year Constructed	Value
	STC 2822	HWB7	1998	$8,757.72
	STC 2822	HWB4	1998	$2,115.07
	CO.RD;PLNG#096B	HWB3	1952	$768.69
	CO RD;PLNG#078A	HWB3	1947	$767.88
	COUNTY ROAD	HWB4	2000	$1,222.13
	CO.RD;PLNG#0038	HWB3	1975	$2,760.48
	CO.RD;PLNG#069A	HWB5	1932	$4,282.47
	CO.RD;PLNG#079B	HWB3	1978	$855.36
	CO.RD;PLNG#096A	HWB3	1959	$824.90
	CO.RD;PLNG#038A	HWB3	1986	$2,388.20
	CO.RD;PLNG#071A	HWB3	1974	$4,032.67
	CO.RD;PLNG#096B	HWB3	1940	$767.88
	DRY CREEK ROAD	HWB3	1977	$2,735.21
	CO.RD;PLNG#0060	HWB3	1982	$5,790.04
	COUNTY ROAD	HWB4	1993	$716.04
	CO.RD;PLNG#088A	HWB3	1959	$824.90
	CO RD;PLNG # 044C	HWB4	1994	$1,285.96
	CO.RD;PLNG#093A	HWB3	1986	$2,084.94
	BROADFORD ROAD	HWB3	1985	$5,239.40
	COUNTY ROAD	HWB4	1995	$1,126.22
	CO.RD;PLNG#0023	HWB3	1974	$709.56
	CO.RD;PLNG#0083	HWB3	1977	$1,407.78
	CO. RD;OKBG#0092	HWB12	1989	$1,531.39
	STC 2814	HWB4	1991	$2,378.97
	CO.RD;PLNG#0083	HWB12	1978	$2,084.94
	CO.RD;PLNG#0099	HWB3	1954	$1,057.37
	CO.RD;PLNG#066C	HWB3	1935	$797.04
	CO.RD;PLNG#0049	HWB3	1945	$2,146.50
	CO.RD;PLNG#0074	HWB4	1992	$1,522.96
	CO RD;PLNG#0080	HWB3	1984	$1,170.45
Subtotal Value				**$84,068.28**
Other Local Agencies	CO.RD;PLNG#049A	HWB17	1964	$3,159.81
	SMILEY C AIRPORT R	HWB3	1950	$1,535.76

Owner	Name	Bridge Class	Year Constructed	Value
Subtotal Value				**$4,695.57**
State Highway Agency	US 26	HWB3	1979	$2,826.25
	US 26	HWB3	1987	$4,269.02
	US 26	HWB3	1987	$3,913.27
	US 26	HWB3	1987	$2,470.50
	US 26	HWB3	1977	$3,616.81
	US 26	HWB3	1977	$4,506.19
	US 20	HWB3	1971	$1,603.48
	US 20	HWB3	1971	$1,638.14
	US 20	HWB17	1979	$6,205.90
	US 20	HWB3	1979	$3,763.58
	US 20	HWB28	1991	$13,767.89
	SH 75	HWB5	1955	$4,927.07
	SH 75	HWB3	1931	$1,695.33
	SH 75	HWB5	1934	$7,212.24
	SH 75	HWB17	1982	$13,200.08
	SH 75	HWB4	1991	$6,473.52
	SH 75	HWB4	1991	$7,938.81
	SH 75	HWB5	1958	$5,809.32
	SH 75	HWB5	1953	$5,235.84
	SH 75	HWB3	1977	$2,796.44
	SH 75	HWB3	1974	$1,612.55
	SH 75	HWB3	1977	$2,061.61
	SH 75	HWB3	1974	$1,612.55
Subtotal Value				**$109,156.41**
Town Highway Agency	BITTERROOT ROAD	HWB3	1965	$669.06
	SILVERWEED WAY RD	HWB3	1965	$980.10
	DOLLAR ROAD	HWB3	1988	$1,808.41
	OLD DOLLAR ROAD	HWB3	1960	$1,266.84
Subtotal Value				**$4,724.41**
US Forest Service	FDR	HWB3	1979	$1,010.88
	FDR	HWB3	1971	$651.24
	FDR	HWB3	1971	$651.24

Owner	Name	Bridge Class	Year Constructed	Value
	FDR	HWB3	1971	$592.92
	FDR	HWB3	1971	$592.92
Subtotal Value				**$3,499.20**
Total Value				**$220,620.83**

Blaine County Bridges

AIRPORTS

Small airports in the County include the Carey, Picabo, Magic Reservoir, and Smiley Creek Airports.

HOUSING

According to the United States 2013 Census data there are15,502 housing units in Blaine County. Of these, 29.9% were renter occupied housing units and 70.1% were owner occupied housing units. New residential construction has been substantial in Blaine County during the past decade, with the average sale price of a home increasing at a higher rate than earnings or personal income.

EDUCATIONAL FACILITIES

The Blaine County School District provides the following educational facilities: Bellevue Elementary (K-5), Carey School (K-12), Ernest Hemingway Elementary (K-5), Hailey Elementary (K-5), Silver Creek Alternative School (9-12), Woodside Elementary (K-5), Wood River Middle School (6-8), and Wood River High School (9-12).

Address	Name	Value
305 N. 5th Street Bellevue, Idaho	Bellevue Elementary Main Bldg	$10,704,040
20 Panther Lane, Carey, idaho	Carey Elementary K-12	$7,105,219
111 8th Street West, Ketchum, Idaho	Hemingway Elementary Main Bldg	$13,939,624
520 S 1st Ave. Hailey, Idaho	Hailey Elementary Main Bldg	$19,201,624
1111 Woodside Elementary Ln. Hailey, Idaho	Woodside Elementary Main Bldg	$11,482,706
900 2nd Ave North, Hailey, Idaho	Wood River Middle School Main Bldg	$24,539,114
1250 Fox Acres Rd Hailey, Idaho	Wood River High School	$37,813,077
1060 Fox Acres Rd. Hailey, Idaho	Silver Creek High School/Bus Maintenance Facility Main Bldg	$6,050,370
1050 Fix Acres Rd. Hailey, Idaho	Community Campus Main Bldg	$19,001,795
1630 Aviation Dr, Hailey, Idaho	Maintenance Building	$1,600,000
Total		**$151,437,569**

The County has two small private schools. The largest private school is the Community School in City of Sun Valley that serves grades K-12. The second private school is the Sage Montessori School. There are also a number of private pre-schools in the County.

College of Southern Idaho, Blaine County Center is located in Hailey and provides Blaine County with higher education opportunities. Classes are held for the most part at the Community Campus.

RECREATION AREAS

Blaine County has many outdoor recreational opportunities and is partially located in the Sawtooth National Recreation Area. Bald Mountain Ski Resort can be accessed by River Run on the south and Warm Springs on the north. Bald Mountain's ski runs stretch across 2,054 acres to the edge of the Sawtooth National Forest. The resort boasts 13 lifts and 65 varied runs on either side of Bald Mountain. Bald Mountain is referred to as the best single ski mountain in the world due to its constant-pitch terrain and substantial vertical drop, as well as absence of wind. The treeless Dollar Mountain is the "finest teaching mountain in the world" and caters to the beginning skier. The 2004 Blaine County Comprehensive Plan states that according to the Ketchum-Sun Valley Chamber of Commerce, Blaine County has 50,000 summer visitors and 70,000 winter visitors each year. The Sawtooth National Recreation Area north of Ketchum tabulates over 1,000,000 visitor days annually. (A visitor day is a 12 hour use period that account for both resident and nonresident use of SNRA Lands).

Rotarun Ski Resort in the Hailey area of Blaine County caters to the skiing/snowboarding enthusiasts. This resort includes an Alpine Ski Race Training area, as well as areas of differing ability levels. Both Dollar Mountain and Rotarun Resort offer an elementary school ski program.

Blaine County Museum on Main Street in Hailey is dedicated to the history of Blaine County. The museum is housed in a building built in 1882 and donated by the Friedman family for use as a museum for the area. The museum allows visitors the opportunity to explore Blaine County's pioneer past, research family history and view exhibits that show aspects of the life early inhabitants experienced.

The Ketchum/Sun Valley Heritage Ski Museum is located in Ketchum and is dedicated to the preservation of the natural heritage of the Upper Wood River Valley and the history of the ski industry. It offers exhibits that feature Ernest Hemingway as well as the ski industry. The first chair lift was used at Sun Valley Resort, and is one of the items featured at the museum.

Magic Reservoir is a reservoir on the Big Wood River on the border of Blaine and Camas counties, Idaho. However, most of the reservoir is located in Blaine County. The reservoir and surrounding Bureau of Land Management land offers opportunities for boating, fishing, camping, and hunting, among other activities. The reservoir is impounded by Magic Dam, which was built in 1910.[51]

[51] http://en.wikipedia.org/wiki/Magic_Reservoir

CULTURAL AND HISTORIC SITES

- **Bellevue Historic District** (added 1982 - **District** - #82002506)
  Roughly bounded by U.S. 93, Cedar, 4th, and Oak Sts., Bellevue
- **Blaine County Courthouse** (added 1978 - **Building** - #78001050)
  1st and Croy Sts., Hailey
- **Cold Springs Pegram Truss Railroad Bridge** (added 1997 - **Structure** - #97000762)
  Over the Big Wood R. 0.5 mi. S of jct. of US 93 and ID 367, Ketchum
- **Emmanuel Episcopal Church** (added 1977 - **Building** - #77000457)
  101 2nd Ave., S., Hailey
- **Fish Creek Dam** (added 1978 - **Structure** - #78003437)
  NE of Carey, Carey
- **Fox, J. C., Building** (added 1983 - **Building** - #83000279)
  S. Main St., Hailey
- **Gimlet Pegram Truss Railroad Bridge** (added 1997 - **Structure** - #97000757)
  Over the Big Wood R. 0.5 mi. S of jct. of US 93 and E. Fork Wood River Rd., Ketchum
- **Hailey Historic District** (added 1982 - **District** - #82005191)
  Roughly bounded by Croy, Carbonate, and River Sts. and First Ave., Hailey
- **Miller, Henry, House** (added 1975 - **Building** - #75000624)
  S of Bellevue off U.S. 93, Bellevue
- **Pound, Homer, House** (added 1978 - **Building** - #78001051)
  314 2nd Ave., S., Hailey
- **Proctor Mountain Ski Lift** (added 1980 - **Object** - #80001294)
  Also known as **Proctor Mountain,** Trail Creek, Sun Valley
- **Sawtooth City** (added 1975 - **District** - #75000625)
  Address Restricted, Sun Valley
- **St. Charles of the Valley Catholic Church and Rectory** (added 1982 - **Building** - #82000321) Also known as **Father Keys House**
  Pine and S. 1st St. Hailey
- **Sun Valley Historic District** (added 1989 - **District** - #88003122)
  ID 75, Sun Valley
- **Vienna** (added 1975 - **District** - #75002203)
  SW of Galena, Galena
- **Watt, W. H., Building** (added 1983 - **Building** - #83000281)
  Also known as **Bullwhacker Building,** 120 N. Main St., Hailey
- **Werthheimer Building** (added 1985 - **Building** - #85002160)
  101 S. Main St., Hailey

CITY OF BELLEVUE

Address	Description	Value
Lower WR Meadows	Lift Station & Equipment	$10,000
S. Bell Business Park	Lift Station & Equipment	$10,000
75 Martin Lane	Maintenance Building	$70,000
117 Pine St	Marshall Office	$123,200
No address	Old City Hall	$150,000
Chestnut & 8th	Pumphouse	$24,000
Chantrelle Sub	Pumphouse & Equipment	$35,000
Hwy 75 & Riverview	Pumphouse & Equipment	$40,000
No address	Sewer Plant/Equipment	$700,000
No address	1 million gal water Tank	$1,800,000
115 Pine St	City Hall	$300,000
O'Donnell Park	Concession Stand	$16,000
75 Martin Way	Lift Station	$10,000
Total Value		**$3,288,200**

City of Bellevue Facilities

The Table above lists the critical infrastructure owned by the City of Bellevue. As illustrated in the following series of maps, the City of Bellevue is vulnerable to Wildfire and Flooding. The City has taken several proactive steps over the past five years to reduce the risk of flooding along the Big Wood River and the Bellevue Canal. The City is located within the Wildland Urban Interface zone and faces the risk of wildfires on the City's outer boundaries and along the Big Wood River.

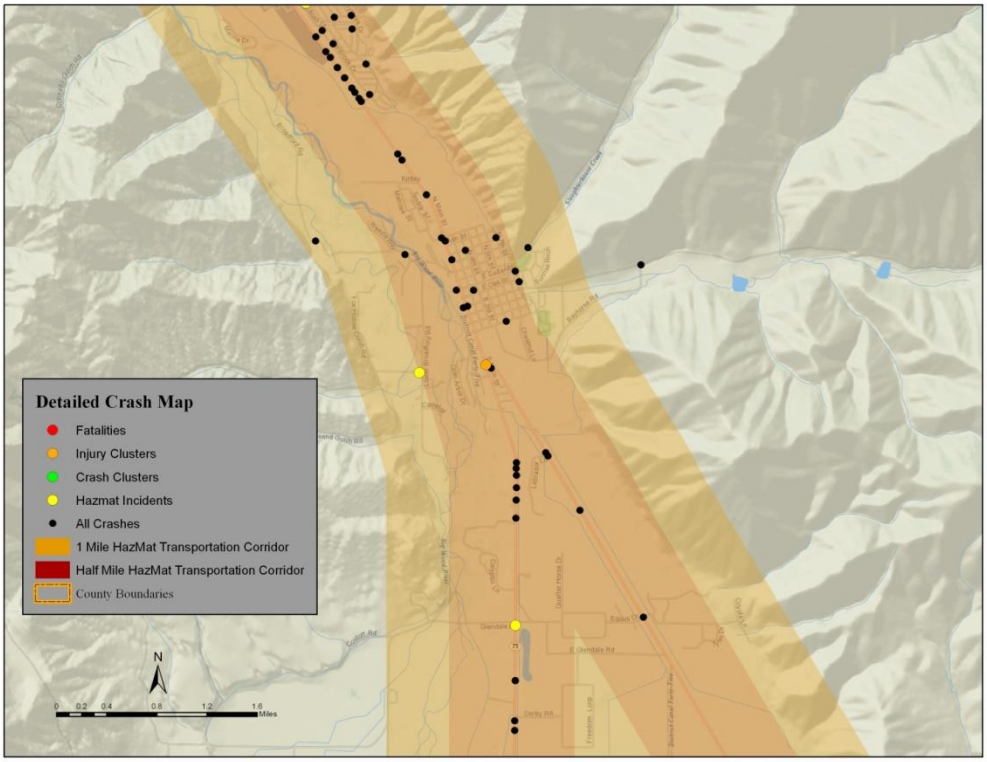
With State Highway 75 bisecting the City ,it is also vulnerable to hazardous materials incidents caused by traffic accidents, as is illustrated in the detailed crash from the Blaine County Hazardous Materials Flow Study presented immediately below.

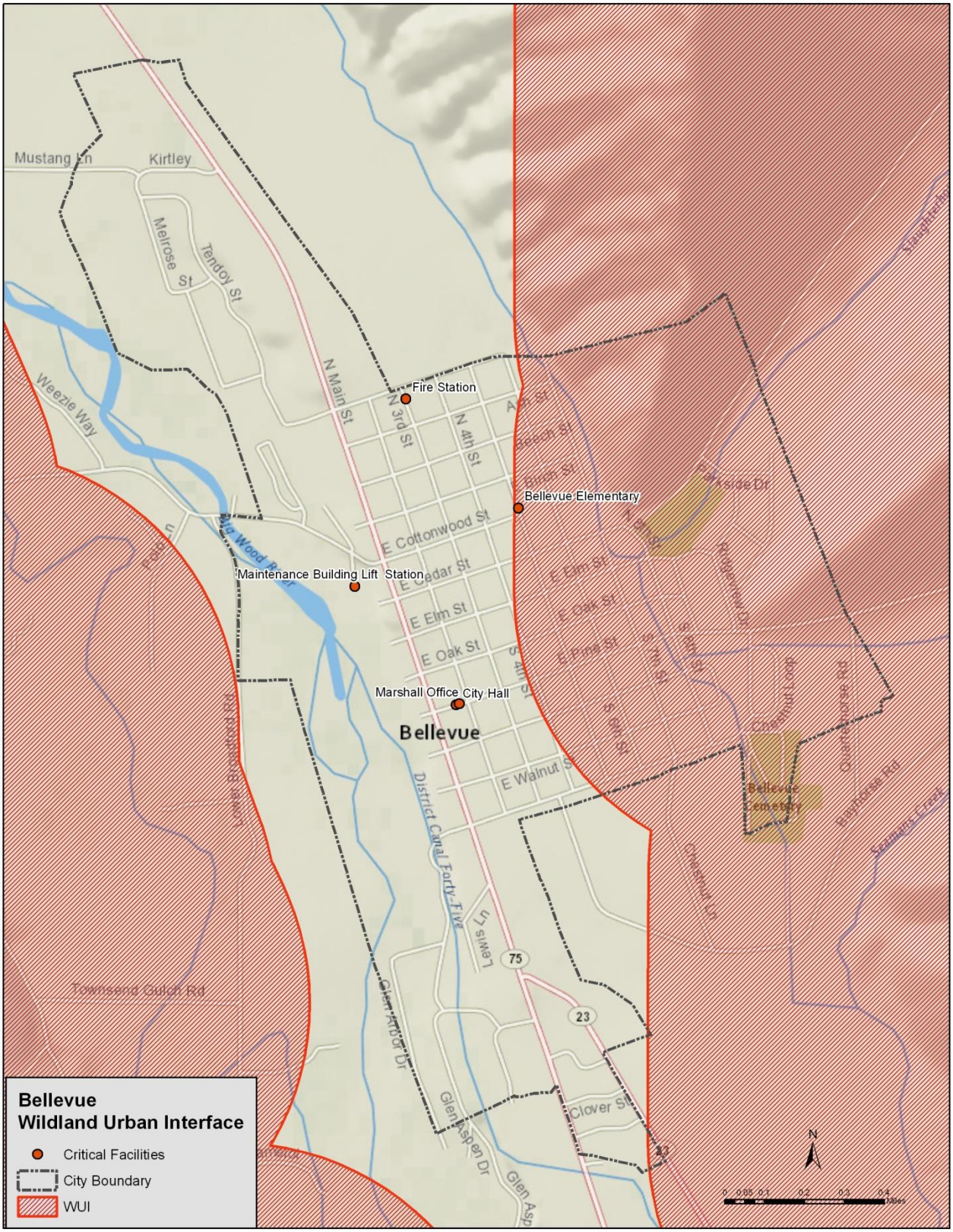
As with all jurisdictions and communities in Blaine County, Bellevue is vulnerable to the effects of severe weather, specifically winter storms. Snow falls and high winds cause blizzard conditions which close roadways, schools, and businesses. Bellevue has an active snow removal program under the direction of the City's Public Works Department and over the past five years has identified a community shelter for stranded visitors and displaced community residents.

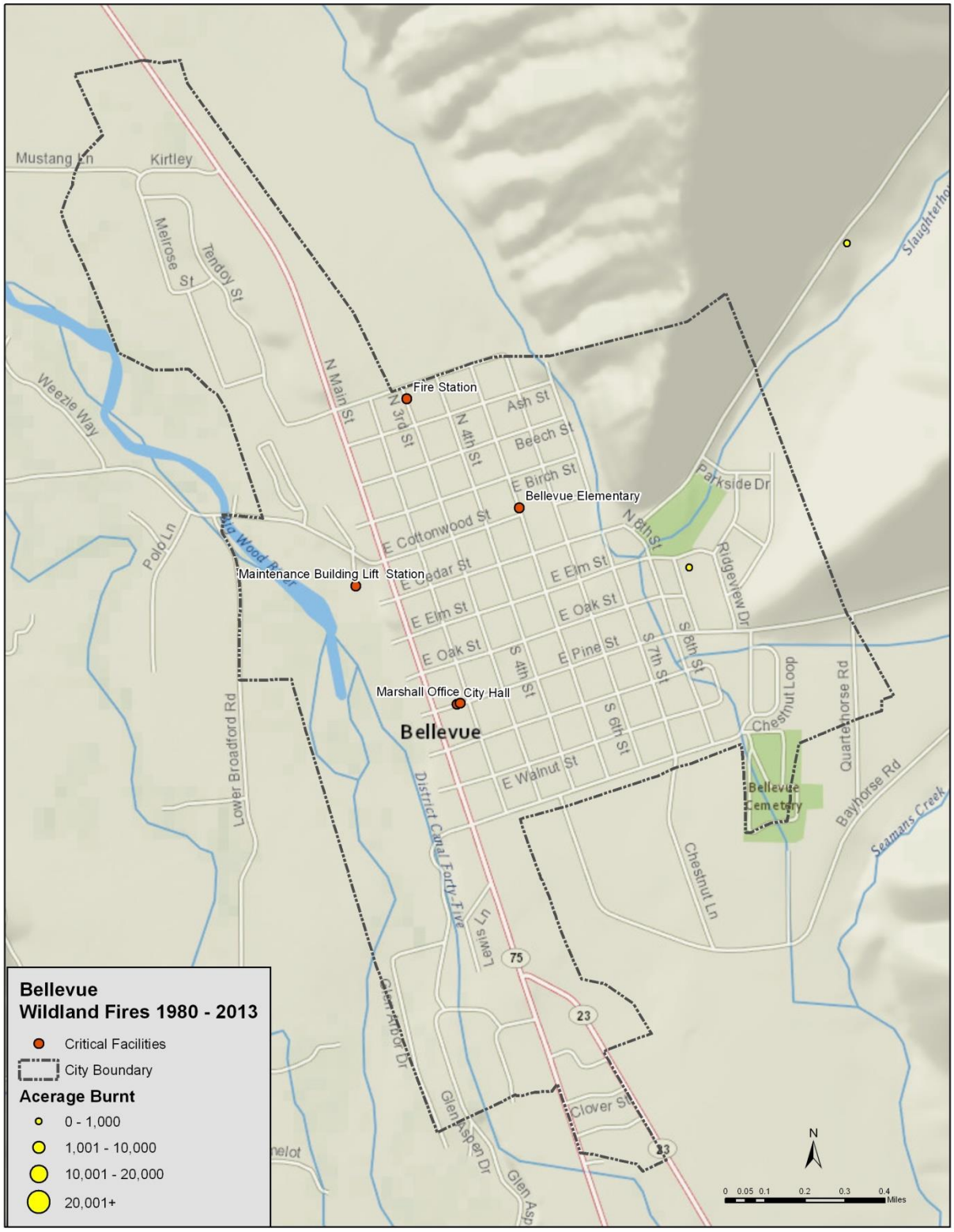
Drought mitigation is a top priority of the City. The City has contracted with SPF Water engineers to study and research our water systems. That study has been going on since last spring. The City has budgeted approximately $15,000 to complete the study which should be done in a few months.

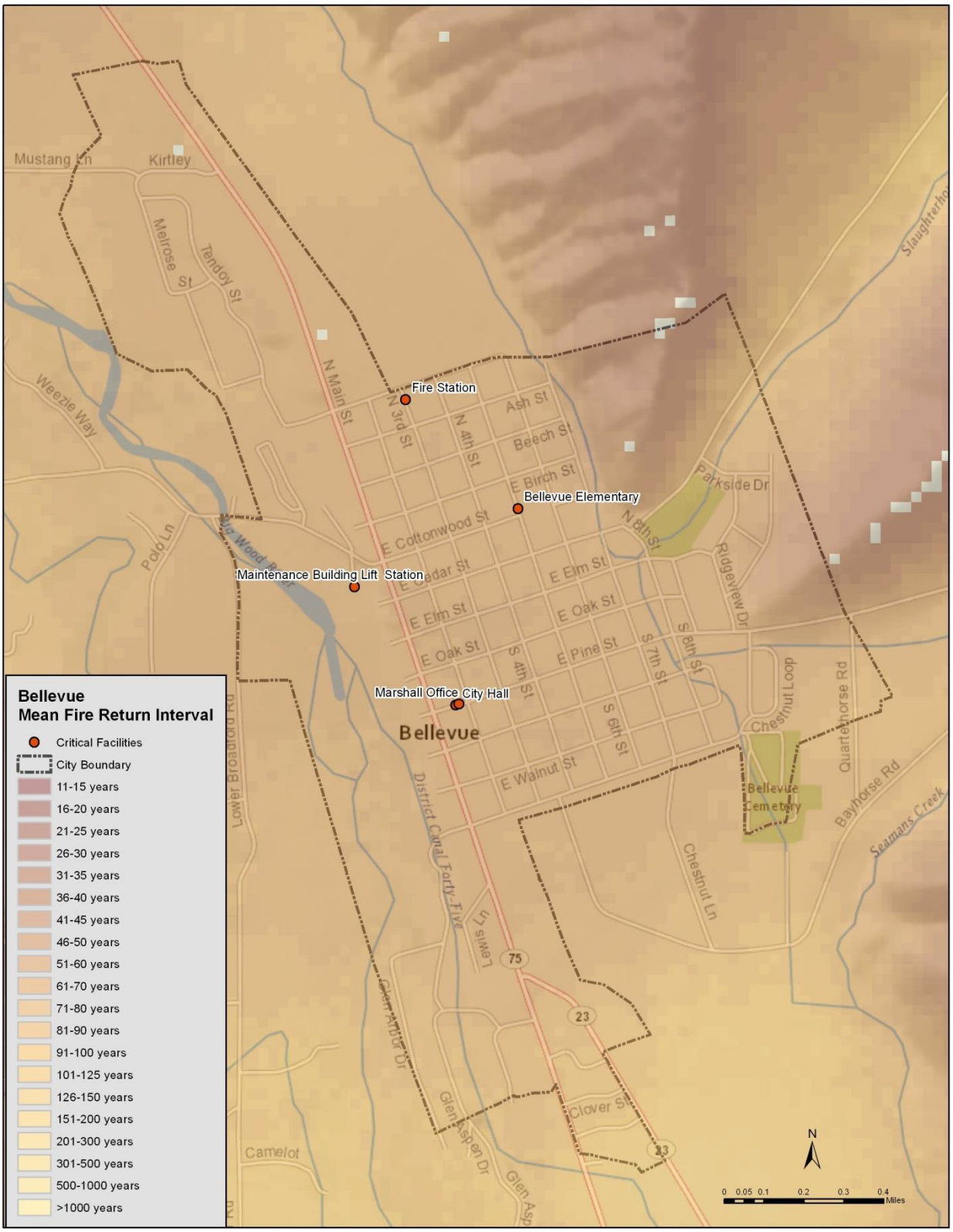
The City has worked with EPA Region IV on an ICDBG grant for the final water mitigation concept for our city which is installation of water meters throughout the City. The Cost is around $400,000. The City has to install approximately 300 vaults prior to selection and installation of meters. The City will be installing around 100 this fiscal year 2015 and plans on completing this project of meters and vaults by 2020. Monitoring other jurisdictions that have their water system metered has proven to greatly reduce consumption. Consumption is a critical component of the City's ability to fight fires, wildland as well as structure. The City expects a drastic drop in user consumption when meters are installed. Also the City now enforces existing ordinances restricting right of way vegetation plantings. The current design reviews ordinances for subdivisions, new commercial developments, and restricts plantings to low water consumptive irrigation systems. The City P & Z Commission will review this section in the next couple of months. The City has also supported the Wood River Trout Friendly Lawn program which reduces water consumption. Recent annexations have detailed in the annexation agreement that vegetation restrictions will apply.

The City of Bellevue is participating in the National Flood Insurance Program. As noted, Bellevue is currently participating in the FEMA remapping of the NFIP floodplain. As part of that process,the City and other jurisdictions participated in the Flood Risk Study for the Big Wood Watershed. HAZUS, FEMA's flood risk model, was run for the City of Bellevue. Note the loss estimates for the City of Bellevue below. The study also suggests areas of mitigation concern which have been addressed by a Flood Project assigned to Blaine County to armor the Bellevue Canal banks.




Bellevue
Wildland Urban Interface
Critical Facilities
City Boundary
WUI
Fire Station
Bellevue Elementary
Maintenance Building Lift Station
Marshall Office City Hall
Mustang Ln
Kirtley
Melrose St
Tendoy St
Weezie Way
N Main St
N 3rd St
N 4th St
Ash St
Beech St
Birch St
E Cottonwood St
E Cedar St
E Elm St
E Oak St
E Pine St
E Walnut St
Big Wood River
Lower Broadway Rd
District Canal Forty Five
Lewis Ln
Glen Arbor Dr
Glen Aspen Dr
Glen Asp
Clover St
Townsend Gulch Rd
Ridgeview Dr
Chestnut Loop
Chestnut Ln
Bellevue Cemetery
Eastside Rd
Seamans Creek
75
23
N
0 0.05 0.1 0.2 0.3 0.4 Miles


Bellevue
Wildland Fires 1980 - 2013
Critical Facilities
City Boundary
Acerage Burnt
0 - 1,000
1,001 - 10,000
10,001 - 20,000
20,001+
Fire Station
Bellevue Elementary
Maintenance Building Lift Station
Marshall Office City Hall
Bellevue
Mustang Ln
Kirtley
Melrose St
Tendoy St
Weezie Way
Polo Ln
Big Wood River
N Main St
N 3rd St
N 4th St
Ash St
Beech St
E Birch St
E Cottonwood St
E Cedar St
E Elm St
E Oak St
E Pine St
E Walnut St
S 4th St
S 6th St
S 7th St
S 8th St
N 8th St
Parkside Dr
Ridgeview Dr
Chestnut Loop
Quarterhorse Rd
Bayhorse Rd
Bellevue Cemetery
Chestnut Ln
Seamans Creek
Slaughterhouse
Lower Broadford Rd
District Canal Forty-Five
Lewis Ln
Glen Arbor Dr
Glen Aspen Dr
Clover St
75
23
N
0 0.05 0.1 0.2 0.3 0.4 Miles



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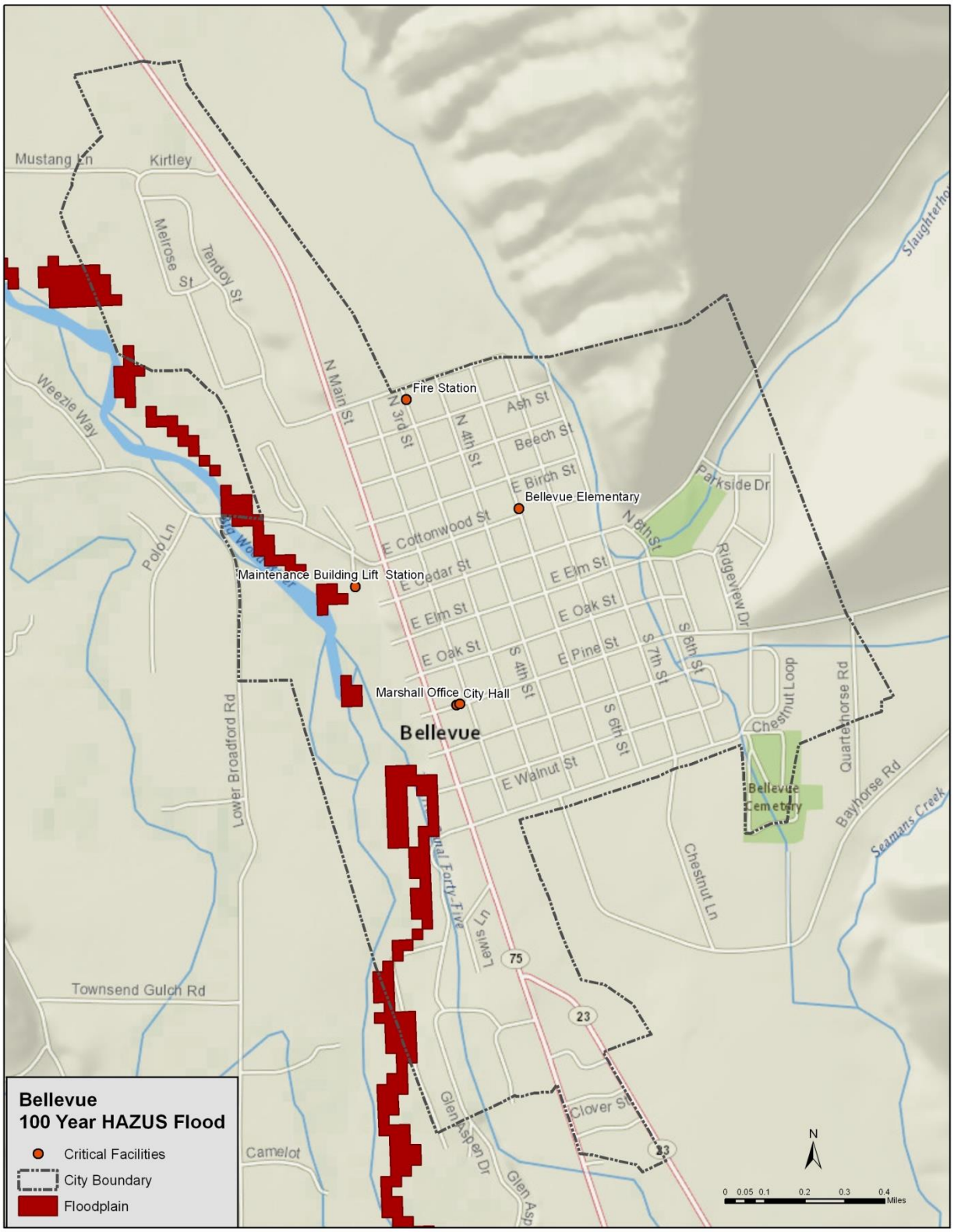

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3.3 City of Bellevue Summary (CID 160021)

Overview

The City of Bellevue is **one of the Cities in Blaine County.** . The information below provides an overview of the community's floodplain management program information as of the date of this publication.

- Participating in National Flood Insurance Program (NFIP)
- Not Participating in NFIP Community Rating System (CRS)
- Included in the All-Hazards Mitigation Plan for Gooding County
- Past Federal Disaster Declarations for flooding =0
- NFIP Policy Coverage (policies/value) = 28 policies totaling approximately $7,824,200
- NFIP-recognized repetitive loss properties = 0
- NFIP-recognized Severe Repetitive Loss properties = 0

HAZUS-MH Estimated Loss Information

The City of Bellevue's flood risk analysis uses results from a FEMA performed HAZUS-MH analysis which accounts for modeled areas in the study area. The analysis is based on multi-frequency Flood Depth grids (10%, 2%, and 0.5%)

Structure Related Losses	Total Inventory		10% (10-yr)		2% (50-yr)		0.5% (200-yr)	
	Estimated Value	Percent of Total	Dollar Losses	Loss Ratio	Dollar Losses	Loss Ratio	Dollar Losses	Loss Ratio
Residential Building/Contents	$26,347,000	58%	$217,000	59%	$491,000	74%	$644,000	72%
Commercial Building/Contents	$14,634,000	32%	$151,000	41%	$172,000	26%	$242,000	27%
Total Building/Contents	**$45,500,000**	**100%**	**$369,000**	**.81%**	**$665,000**	**1.5%**	**$893,000**	**2%**

Population Impacts	10% (10-yr)	2% (50-yr)	0.5% (200-yr)
Shelter Needs	2	13	30
Displaced Population	28	88	136

Hint: Emergency Managers and Planners can use information about population impacts to prepare and plan for future shelter needs. When planning for shelter needs it is important to consider locations outside of the hazard areas that are accessible to impacted population.

Debris	10% (10-yr)	2% (50-yr)	0.5% (200-yr)
Debris (tons)	11.9	30.19	42.16

Essential Facilities	Total	10% (10-yr)	2% (50-yr)	1% (100-yr)	0.5% (200-yr)
Fire Stations	1	0	0	0	0
Hospitals	0	0	0	0	0
Police Stations	0	0	0	0	0
Schools	2	0	0	0	0

Hint: Essential Facilities are often the lifelines of the community. They provide the much needed resources, care and shelter to community members. When a community's life lines are impacted by a disaster it is a threat to the life and safety of community members. It is beneficial to communities to place Essential Facilities located within high risk hazard zones as one of the top priorities for future mitigation.

This figure indicates the proximity of a Bellevue School and Fire station to the HAZUS-generated 200 year flood

Areas of Mitigation Interest (AOMI)

Section 2.2.3 of the Flood Risk Report provides more information regarding areas of mitigation interest, how they are defined for this analysis, and potential mitigation actions that could be considered for each type.

Mitigation Interest	Problem Statement	Included in HM Plan? (Y\N)
Bellevue Canal	The river is meandering and undercutting the canal causing flooding between the river and canal. A nearby development may be impacted.	

Table 4.1 provides information on possible actions to address Areas of Mitigation Interest.

This map summarizes the AOMI identified through the discovery process

52

[52] Flood Risk Report, For the Big Wood Watershed Study Area, Draft April 12, 2014

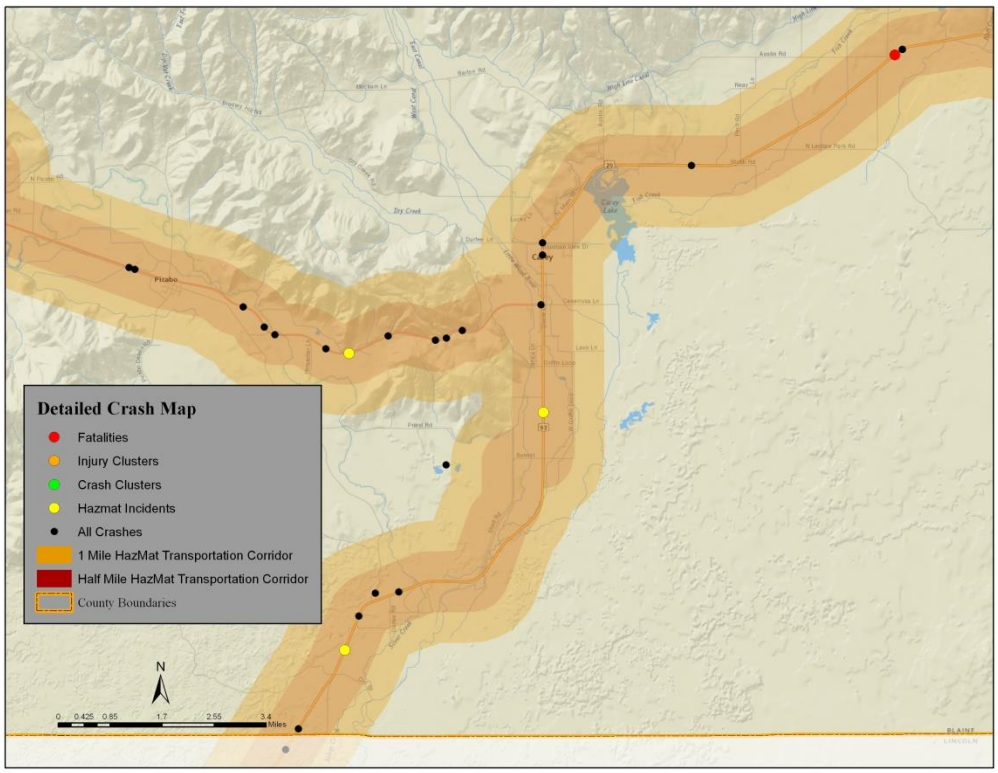
CITY OF CAREY

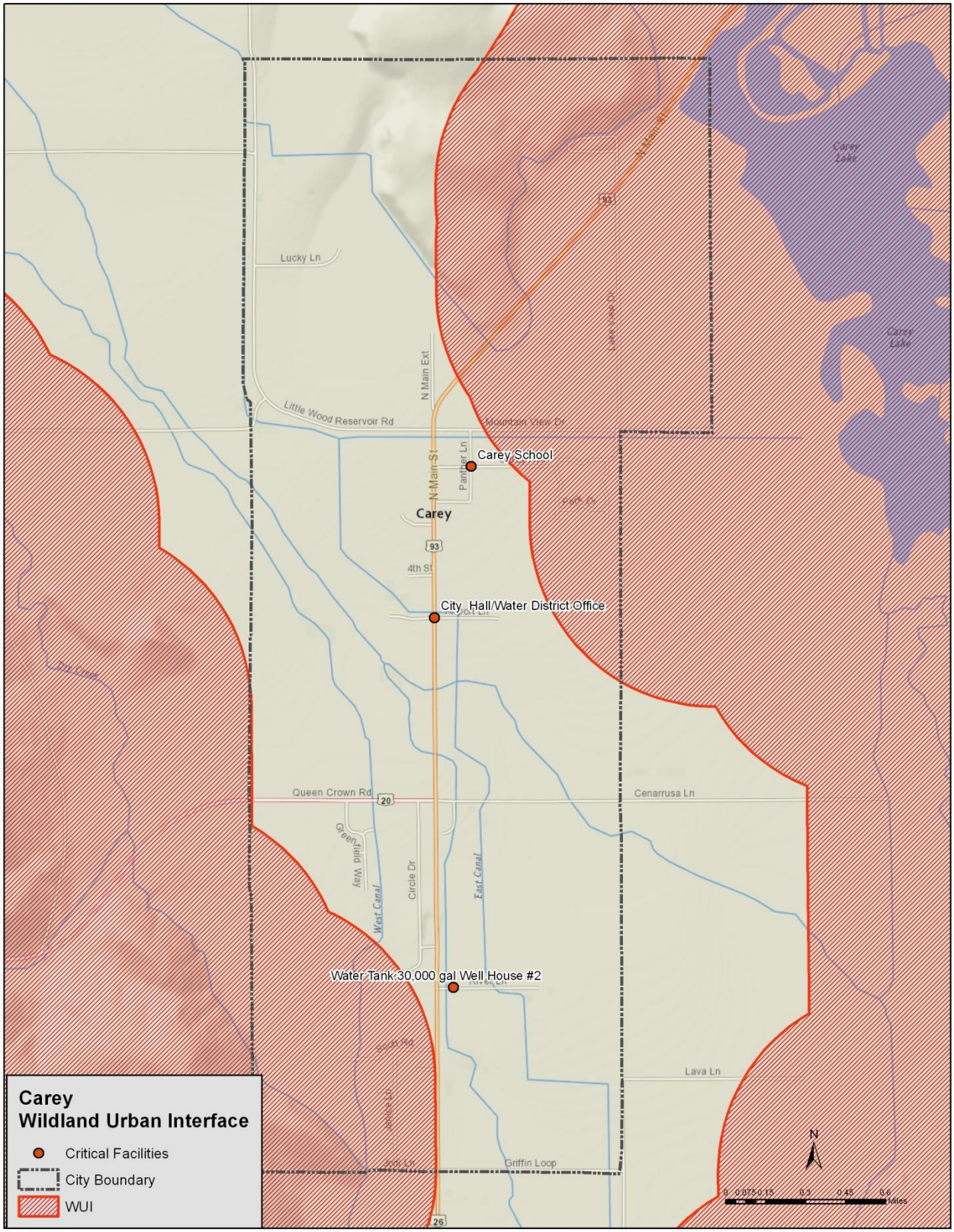
Address	Description	Value
20482 Main Street	City Hall/Water District Office	$390,000
Section 3, Twp 2 S, R 21 E	Sewer House	$40,000
	Storage Bldg at Sewer Plant	$5,000
	Water Tank 165 gal	$200,000
9 River Road	Water Tank 30,000 gal	$100,000
Section 2 Twp 2 S R 21 E	Well House #1	$5,000
9 River Lane	Well House #2	$100,000
Total Value		**$840,000**

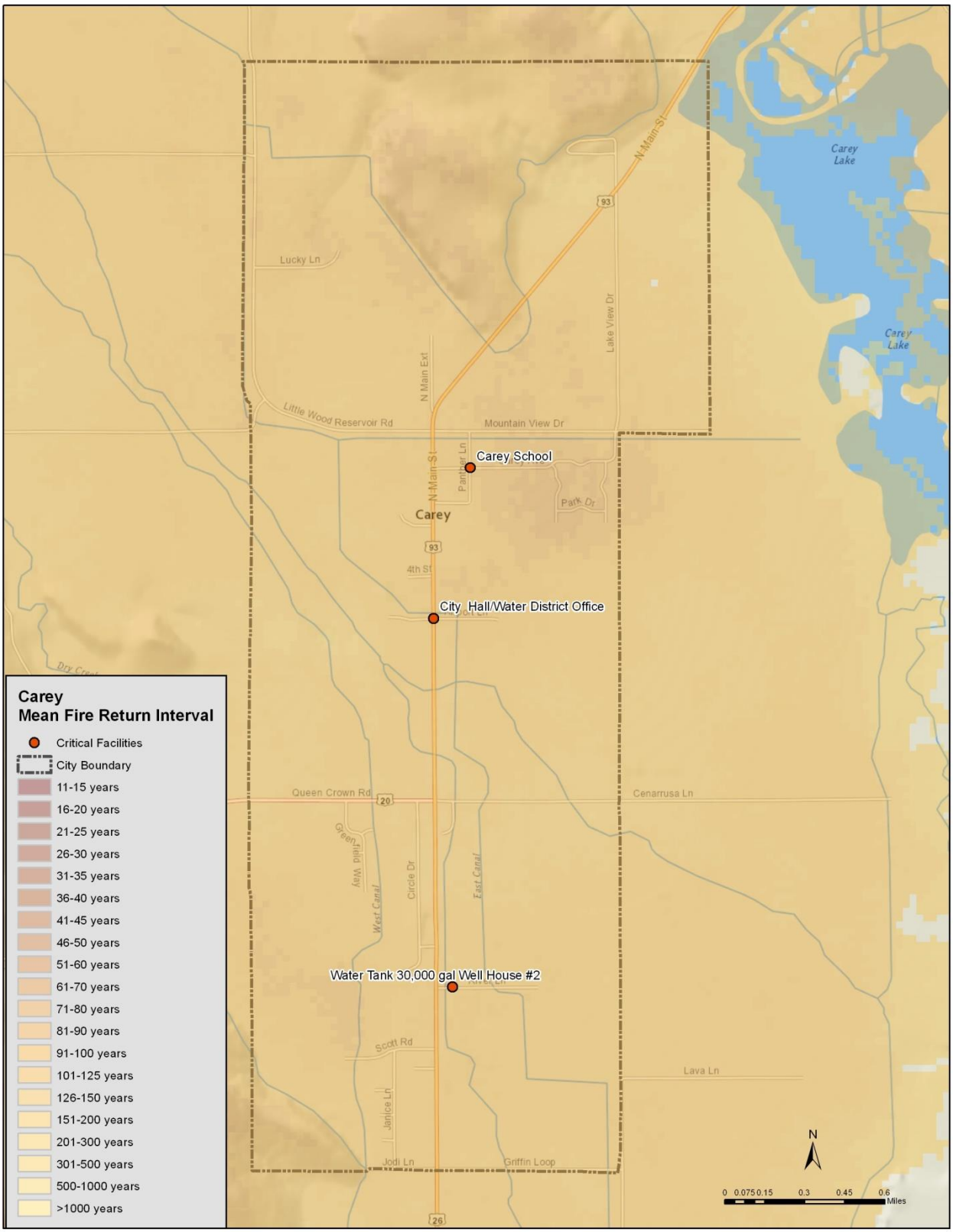
City of Carey Facilities

The listing of critical infrastructure owned by the City of Carey is presented above. The series of maps which follow this narrative illustrate the infrastructure in relationship to the Wildland Urban Interface, the Mean Fire Return Interval, and the HAZUS defined floodplain for the Little Wood River. Additionally the maps juxtapose the location of infrastructure to historical wildfire locations.

US Highways 20 and 26/91 intersect in Carey. Hazardous Materials, particularly in the form of hydrocarbons, are transported through Carey, increasing the vulnerability of the community to releases of hazardous materials during transportation accidents. The map below illustrates the number of accidents in Carey as reported by the Idaho Transportation Department from 2010-2013.


Detailed Crash Map
Fatalities
Injury Clusters
Crash Clusters
Hazmat Incidents
All Crashes
1 Mile HazMat Transportation Corridor
Half Mile HazMat Transportation Corridor
County Boundaries
N
0 0.425 0.85 1.7 2.55 3.4
Miles
Picabo
Carey
Carey Lake
BLAINE
LINCOLN


Carey
Wildland Urban Interface
Critical Facilities
City Boundary
WUI
Carey School
City Hall/Water District Office
Water Tank 30,000 gal Well House #2
Carey
N Main St
N Main Ext
Lucky Ln
Little Wood Reservoir Rd
Mountain View Dr
Panther Ln
4th St
Queen Crown Rd
Cenarrusa Ln
Greenfield Way
Circle Dr
West Canal
East Canal
Lava Ln
Griffin Loop
Carey Lake
Lake View Dr
Fox Dr
Oak Creek
N
0 0.075 0.15 0.3 0.45 0.6 Miles



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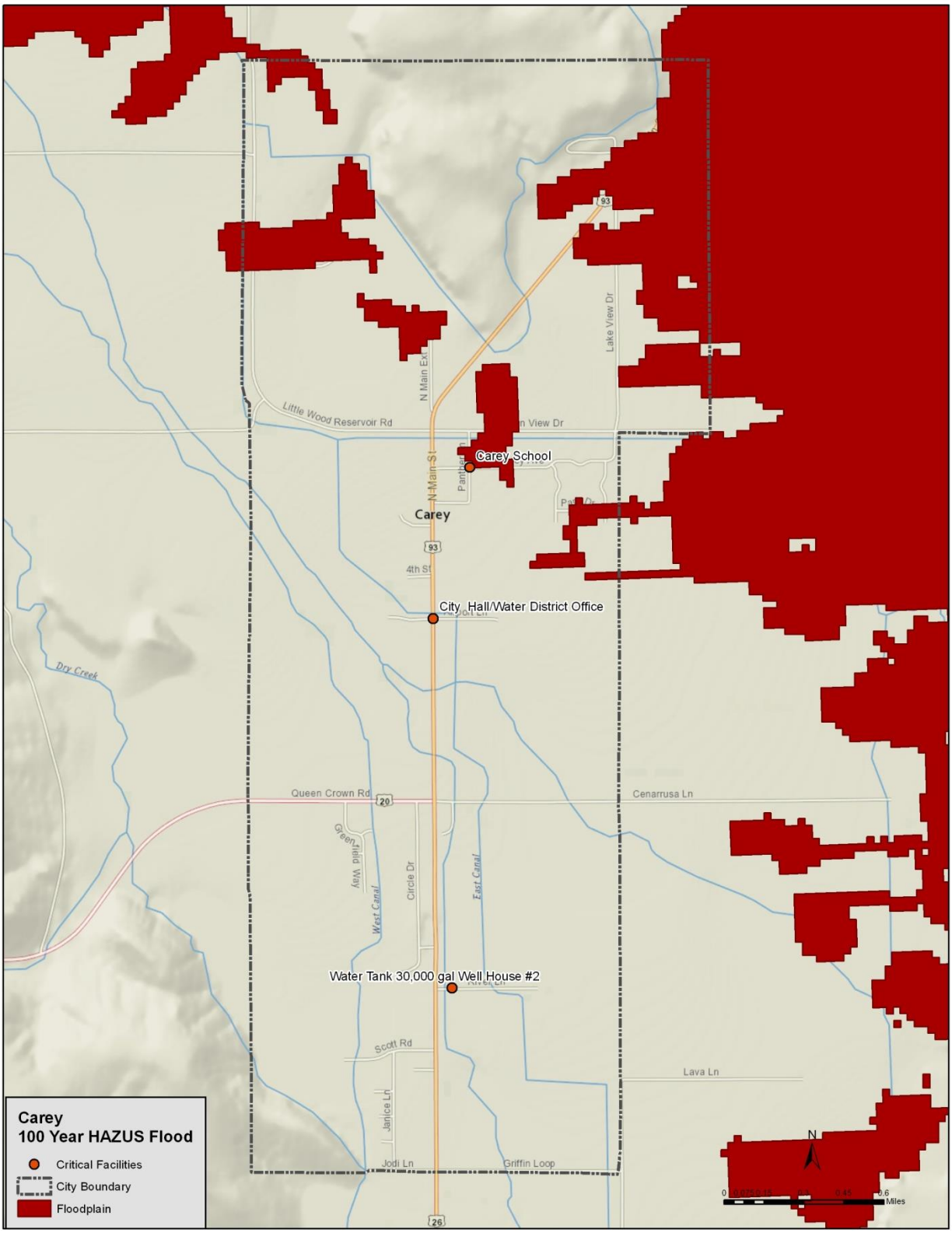
Carey
Wildland Fires 1980 - 2013
Critical Facilities
Acerage Burnt
0 - 1,000
1,001 - 10,000
10,001 - 20,000
20,001+
City Boundary
Carey Lake
Carey Lake
N-Main-St
93
Lucky Ln
Lake View Dr
N Main Ext
Little Wood Reservoir Rd
Mountain View Dr
Carey School
Panther Ln
Park Dr
Carey
4th St
City Hall/Water District Office
Dry Creek
Queen Crown Rd
20
Cenarrusa Ln
Green Hill Way
Circle Dr
West Canal
East Canal
Water Tank 30,000 gal Well House #2
Scott Rd
Lava Ln
Janice Ln
Jodi Ln
Griffin Loop
26
N
0 0.075 0.15 0.3 0.45 0.6
Miles


Carey
100 Year HAZUS Flood
Critical Facilities
City Boundary
Floodplain
Carey School
City Hall/Water District Office
Water Tank 30,000 gal Well House #2
Carey
Little Wood Reservoir Rd
N Main St
Lake View Dr
4th St
Dry Creek
Queen Crown Rd
Cenarrusa Ln
Green Field Way
West Canal
Circle Dr
East Canal
Scott Rd
Lava Ln
Janice Ln
Jodi Ln
Griffin Loop
93
20
26
N
Miles

CITY OF HAILEY

Address	Description	Value
4297 Glenbrook Drive	Main Office/Lab	$359,694
	Electrical Bldg/Generator	$540,612
	Headworks	563,726
	Wastewater Treatment Plant	$240,000
	Wastewater Treatment Plan Process Bldg/Basins	$5,180,911
	Waste Treatment Shop	$191,935
	Wastewater Treatment Digester	$1,885,970
	Water Reservoir, 1Million Gallons	$79,775
	Water Reservoir, 2Million Gallons	$129,400
Northridge	Well Building	$100,000
Snowfly Drive	Lift Station (Pmp HS)	$20,000
N. Woodside	Pumphouse	$25,000
N. Woodside	Pumphouse n/Chlorine Contact Chamber	$40,000
3rd St South	Pumphouse	$15,000
Silver St/River St	Pumphouse	$30,000
War Eagle Dr	Pumping Station Riverside	$142,000
Buttercup Road	Regulator Station	$10,000
Indian Creek Road	Hydrogen and Bldg and Equipment	$100,000
Indian Springs Canyon	Storage Tank	$1,000,000
	Spring House	$20,000
115 Main Street	City Hall PD/Library	$4,181,170
218 N Main	Museum	$225,000
617 S 3rd Street	Fire Station	$881,023
Lawrence Heagle Park	2002 Playground Wood & Metal Structure	$75,000
	Restrooms/Pavilion Lion/eq.	$70,000
	Surplus Building	$50,000
Deerfield Park	Playground Equipment	$7,500
Eastridge & Buckhorn Dr	Foxmoor Park	$2,500
Hwy 75 & Airport Way	Hailey Skate Park	$150,000
Hop Porter Park	Pavilion	$70,000
	Pavilion & Playground Eq Update	$20,000
	Restroom	$50,000

Address	Description	Value
Lions Park	Pavilion, powerbox, playground equip	$15,000
Hwy 75 & 4th	Roberta McKercher Park (RV Dumps)	$2,000
1811 Merlin Loop	City Shop	$500,000
Airport Way Lot 9 Blk 9	City Shop	$808,891
Treaty Road	Turbine Tank	$803,000
Main Street	Rodeo Grounds with Area and Bleachers	$2,400,000
	Welcome Center	$325,000
Total Value		**$21,310,107**

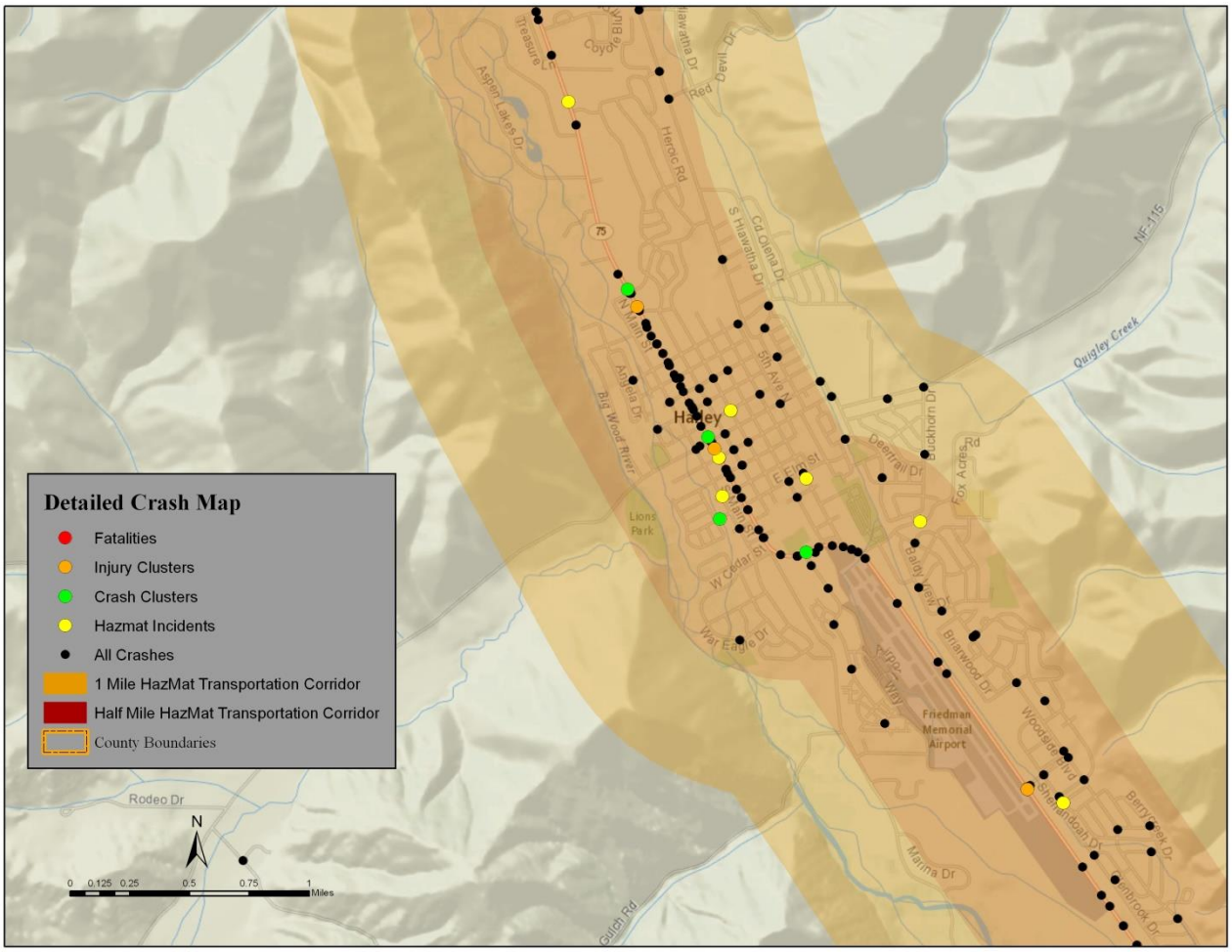
City of Hailey Facilities

The City of Hailey's critical infrastructure is provided in the list above. The City of Hailey is vulnerable to wildfire, flood, and severe winter storms, as well as drought and hazardous material releases from transportation accidents. The series of maps following this narrative juxtapose the locations of the City's critical infrastructure against the wildland urban interface boundary, the wildfire mean return interval, and the HAZUS defined floodplain for the City of Hailey. It should be noted that the City's exterior boundaries are all within the wildland urban interface, and the west side of the City is within the floodplain.

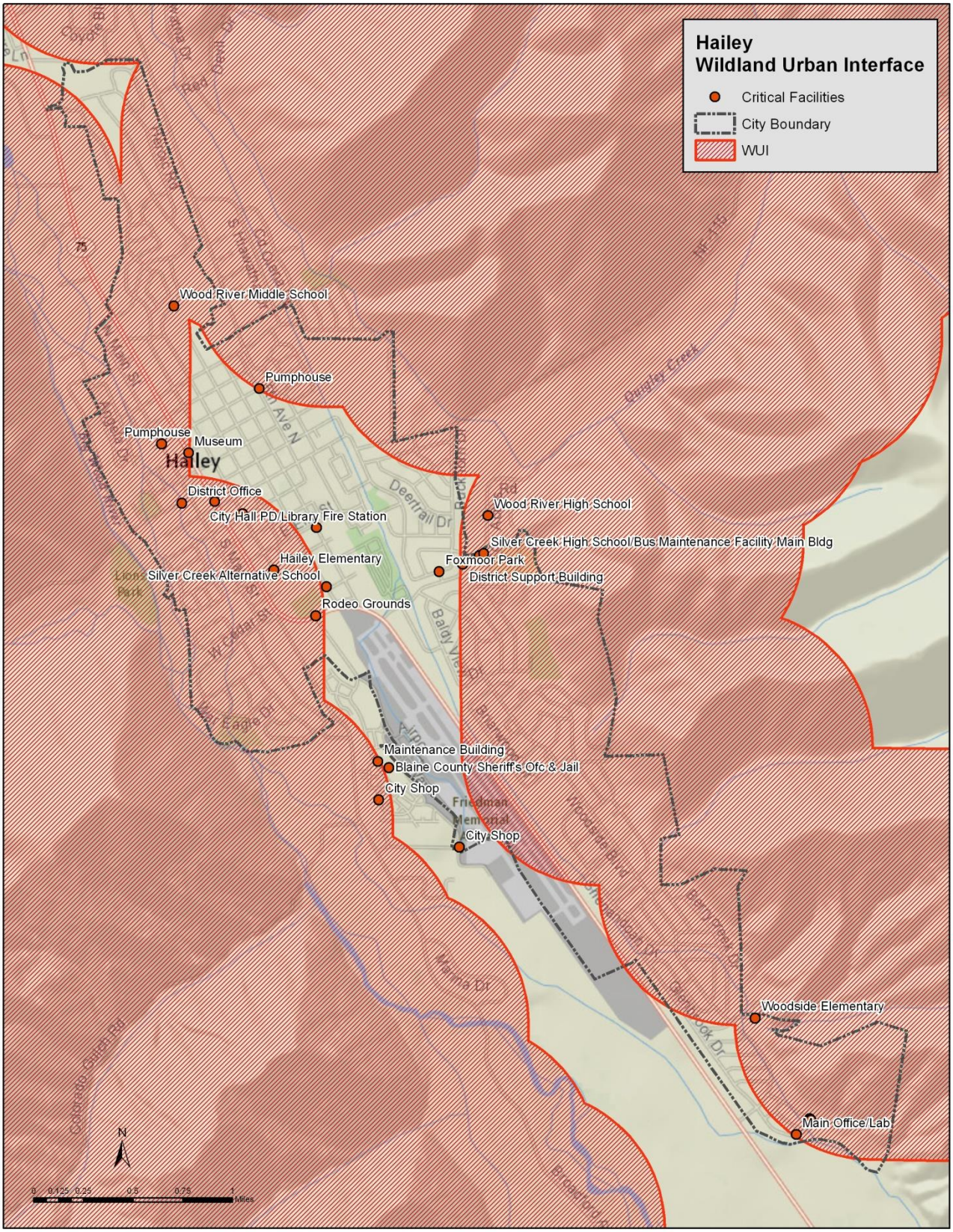
The City of Hailey, as with all cities and communities in Blaine County is vulnerable to severe winter storms with associated road and school closures, power outages, and business interruptions. The City has planned for these eventualities through adoption of a city emergency operations plan and participation in the Blaine County Emergency Operations Program.

State Highway 75 traverses through the center of the City and thus the community at large is vulnerable to hazardous material releases caused by accidents on Highway 75. While most of the hazardous materials traveling on Highway 75 are hydrocarbon based, there is a risk of accident releases which would require immediate response and/or evacuations of the center of the City. The map below illustrates the accidents which have occurred in the area as reported by the Idaho Transportation Department from January 2010 – December 2013.

The City of Hailey is host to the Friedman Memorial Airport. The Airport was previously identified in the Blaine County Multi-Jurisdiction All Hazard Mitigation Plan as a hazard. Since the issuance of the 2009 Plan the Airport has undertaken upgrades that have increased service capability, however the risk of air traffic accidents in Big Wood Valley remains a concern. The Airport is a critical component of the Blaine County community at large.



The City of Hailey participates actively in the National Flood Insurance Program (NFIP). The City, as well as the entire Big Wood Drainage is currently being remapped by FEMA. The City flood hazard was recently reviewed by FEMA as part of a Flood Risk Mapping effort. The results of the review, including results from the FEMA HAZUS flood model, are provided at the end of this section. Areas of mitigation concern were identified, and the City has reviewed the recommendations, and included mitigation projects in this Plan for future action. Note the loss estimates are provided by the Risk Map Study HAZUS analysis.



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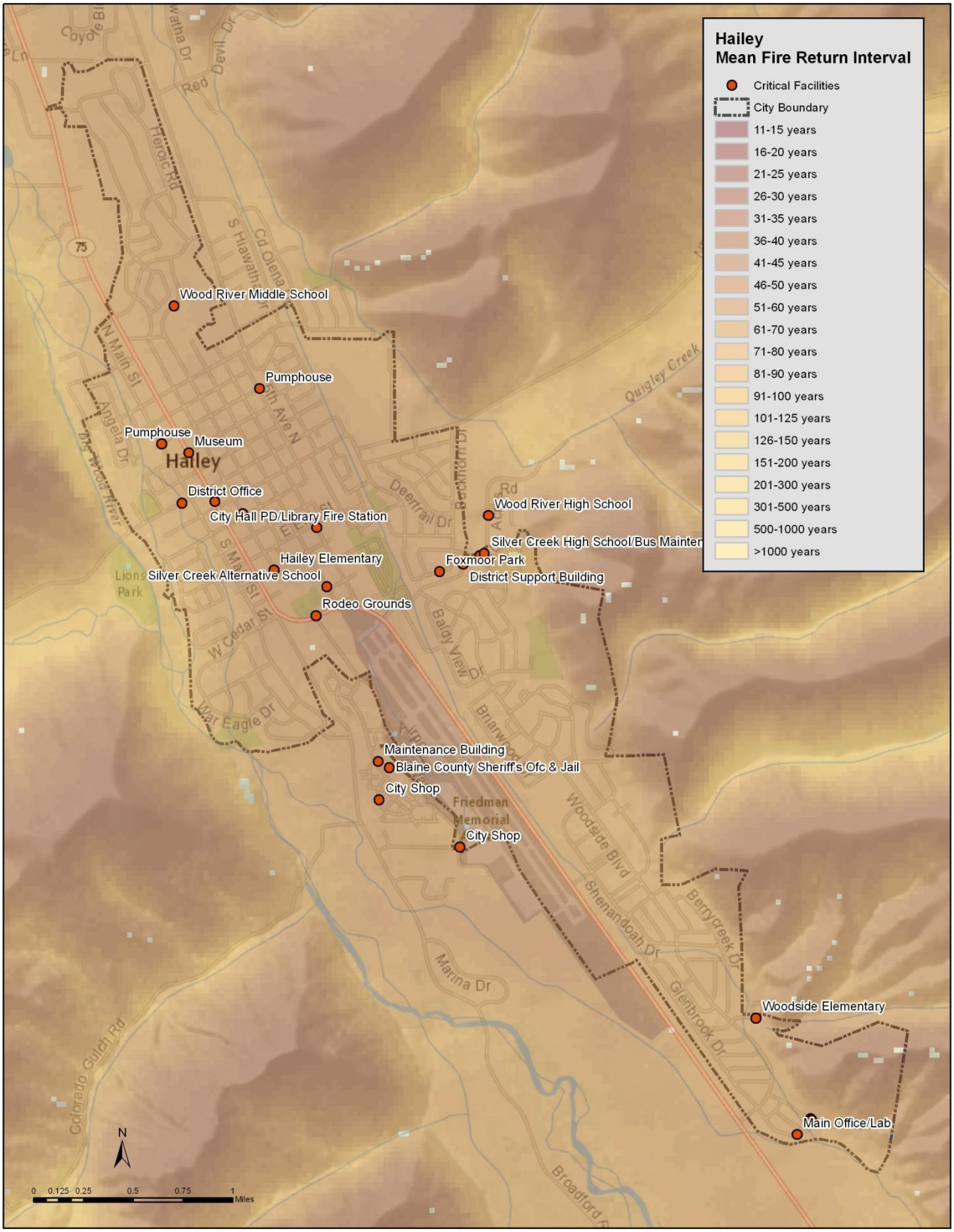

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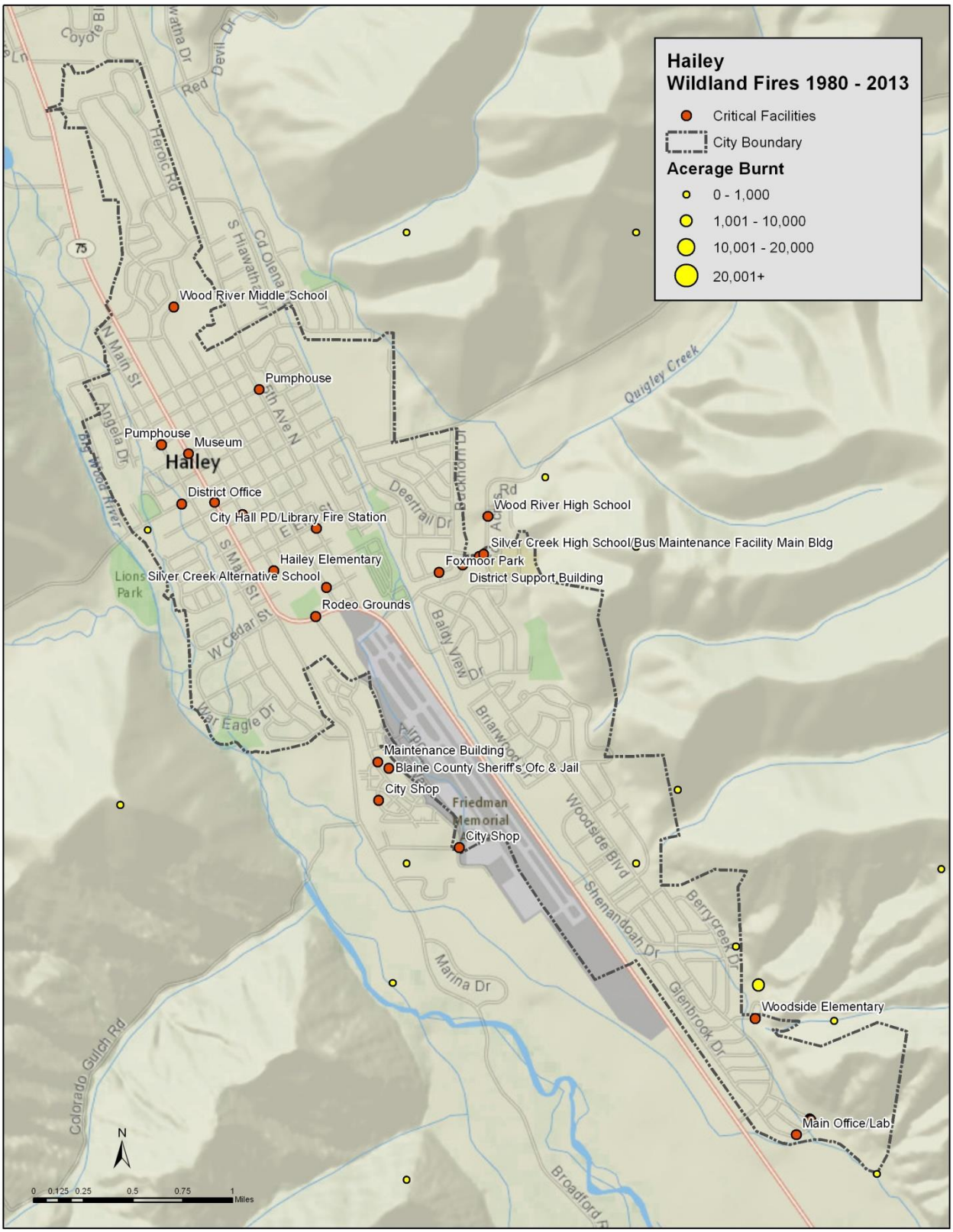


Official Use Only

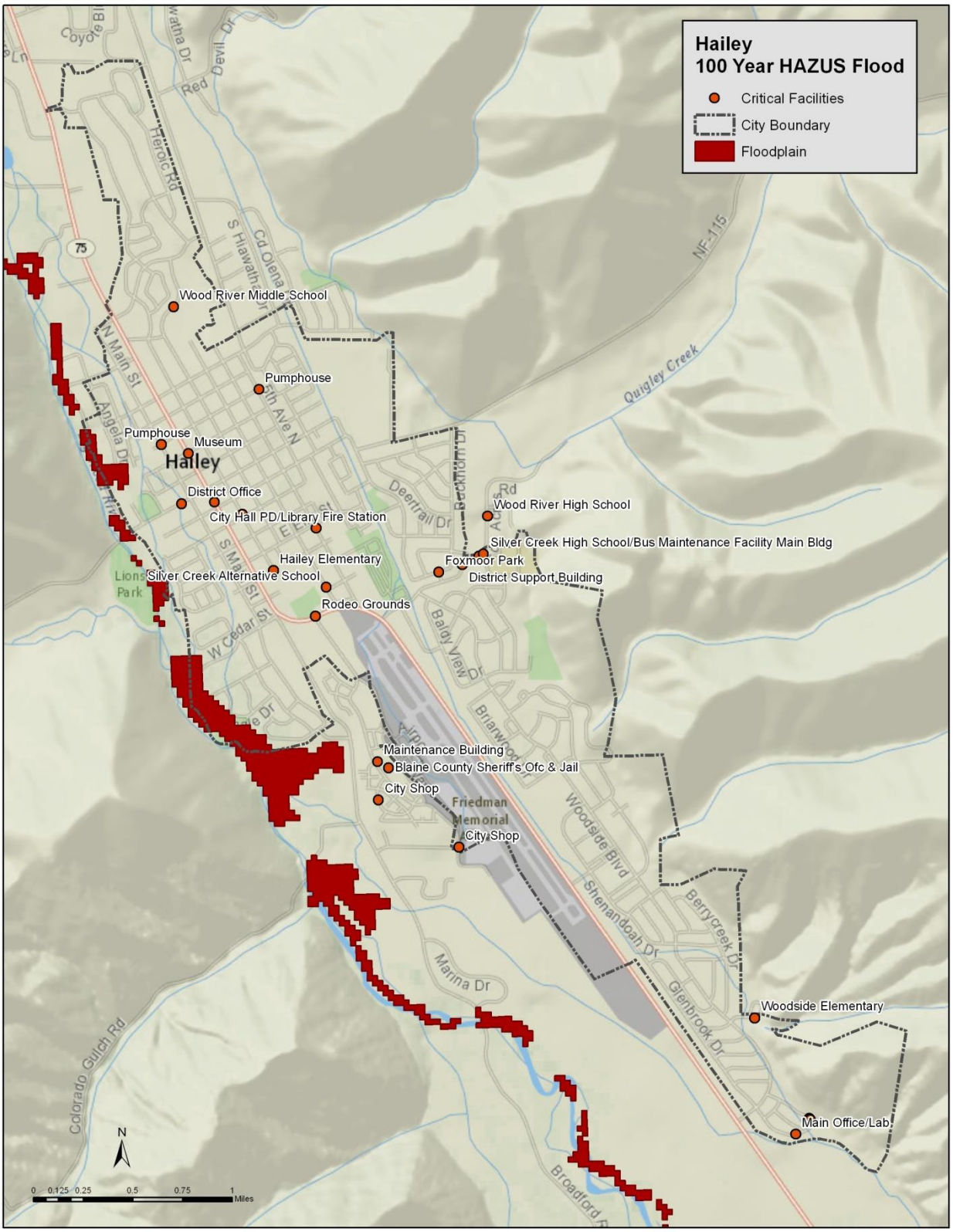
Airport

Friedman Memorial Airport, located in Hailey, serves Blaine County with both general aviation and commercial air carriers. It is the second busiest airport in the State. Twin Falls regional airport, located in Twin Falls, Idaho is currently used for diversions from Friedman Airport because of weather. Connections to major air carriers are available in Boise and Salt Lake City[53].

Friedman airport facilities include:

- Runway 13/31 for take-off and landing, six thousand six hundred feet (7550') long
- A fourteen thousand seven hundred (14,700) square foot commercial airline terminal
- Airport manager's office
- Hangers leased to private individuals or companies; the ground under the buildings is leased from the airport
- A contract non-federal airport Air Traffic Control Tower is operated by Midwest Air Traffic Control; services are paid for by Friedman Memorial Airport, which is reimbursed by the Federal Aeronautics Administration (FAA)
- Friedman Memorial Airport owns and operates two Aircraft Rescue Fire Fighting vehicles; there are 6 FAA certified individuals trained to operate them; the Airport is a signatory to the South Valley Auto Aid agreement

[53] Blaine County Comprehensive Plan, 1994



Official Use Only

3.5 City of Hailey Summary (CID 160022)

Overview

The City of Hailey is the largest of 3 cities located within Blaine County. The information below provides an overview of the community's floodplain management program information as of the date of this publication.

- Participating in National Flood Insurance Program (NFIP)
- Participating in NFIP Community Rating System (CRS)
- Included in the All-Hazards Mitigation Plan for Blaine County
- Past Federal Disaster Declarations for flooding = 1
- NFIP Policy Coverage (policies/value) = 119 policies totaling approximately $30,433,200
- NFIP-recognized repetitive loss properties = 1
- NFIP-recognized Severe Repetitive Loss properties = 0

HAZUS-MH Estimated Loss Information

Eagle Point's flood risk analysis uses results from a FEMA performed HAZUS-MH analysis which accounts for modeled areas in the study area. The analysis is based on multi-frequency Flood Depth grids (10%, 2%, and 0.5%)

Structure Related Losses	Total Inventory		10% (10-yr)		2% (50-yr)		0.5% (200-yr)	
	Estimated Value	Percent of Total	Dollar Losses	Loss Ratio	Dollar Losses	Loss Ratio	Dollar Losses	Loss Ratio
Residential Building/Contents	$489,381,000	73%	$9,951,000	63%	$11,122,000	70%	$13,036,000	72%
Commercial Building/Contents	$138,760,000	38%	$4416000	31%	$4,681,000	29%	$5,043,000	28%
Total Building/Contents	**$669,446,000**	**100%**	**$14,476,000**	**2.1%**	**$15,915,000**	**2.4%**	**$18,199,000**	**2.7%**

Hint: Loss Ratios are a useful gage to determine overall community resiliency.

Population Impacts	10% (10-yr)	2% (50-yr)	0.5% (200-yr)
Shelter Needs	478	483	500
Displaced Population	600	613	646

Hint: Emergency Managers and Planners can use information about population impacts to prepare and plan for future shelter needs. When planning for shelter needs it is important to consider locations outside of the hazard areas that are accessible to impacted population.

Debris	10% (10-yr)	2% (50-yr)	0.5% (200-yr)
Debris (tons)	539.01	155.91	702.37

Hint: HAZUS calculated debris generation from building loss can help communities plan for the resources needed to help with clean up following a disaster.

Essential Facilities	Total	10% (10-yr)	2% (50-yr)	1% (100)-yr	0.5% (200-yr)
Fire Stations	3	0	0	0	0
Hospitals	1	0	0	0	0
Police Stations	3	0	0	0	0
Schools	4	0	0	1	0

This figure shows a school in the effective floodplain.

54

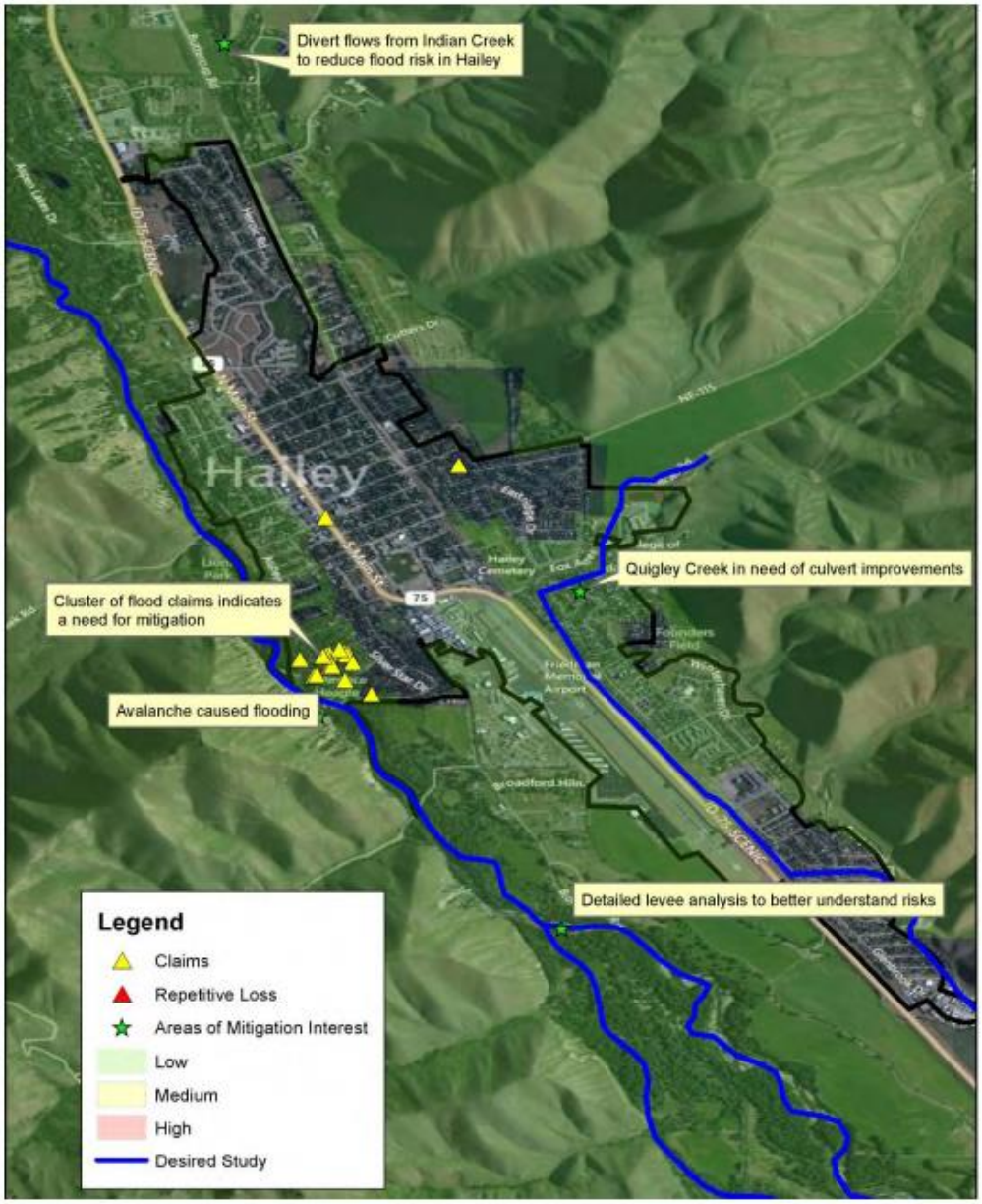
[54] Flood Risk Report, For the Big Wood Watershed Study Area, Draft April 12, 2014

Areas of Mitigation Interest (AOMI)

Section 2.2.3 of the Flood Risk Report provides more information regarding areas of mitigation interest, how they are defined for this analysis, and potential mitigation actions that could be considered for each type.

Mitigation Interest	*Problem Statement*	*Included in HM Plan? (Y\N)*
Indian Creek	The confluence of Indian Creek with the Hiawatha Canal presents a flood risk to the City of Hailey.	
Quigley Creek	Aging infrastructure has created an increased flood risk due to poor flow. There is a need for structural and restoration improvements to culverts.	
Past Claims Hot Spot	There are a cluster of past claims indicating a need for mitigation measures.	
Slide induced flooding	The Mt. Della Avalanche created a flooding event. Avalanche control and cascading events from other types of slides should be mitigated.	

Table 4.1 provides information on possible actions to address Areas of Mitigation



This map summarizes the AOMI identified through the discovery process

CITY OF KETCHUM

Address	Description	Value
480 East Ave N	City Hall	$1,972,000
110 River Ranch Rd	Admn Building/Utilities Dept	$250,000
	Aeration Basin/Utilities Dept	$1,500,000
	Sludge Transfer Pump Bldg/Utilities Dept	$75,000
	Truck Loading Bldg/Utilities Dept	$780,000
	Bar Screen Bldg/Utilities Dept	$250,000
	UV Disinfection Bldg/Utilities Dept	$710,000
	Blower Bldg #2/Utilities Dept	$420,000
	Sewer Operations Bldg/Utilities Dept	$500,000
	Sewer Storage Bldg/Utilities Dept	$200,000
	Effluent Filters Building	$1,540,000
	Electrical Building	$920,000
	Influent Pump/Utilities Dept	$900,000
	Operations Bldg/Utilities Dept	$460,000
	Aeration Basin/Utilities Dept	$1,500,000
No address	Sludge Thickener Bldg/Utilities Dept	$540,000
River Ranch Rd	Submersible Pump Bldg/Utilities Dept	$142,000
1178 Warm Springs Rd	Pumphouse @ Parkwood/Utilities Dept	$250,000
120 River Rock Rd	Pumphouse @ Big Wood/Utilities Dept	$250,000
100 Park Circle West	Pumphouse @ Northwood Park/Utilities Dept	$250,000
1197 Warm Springs Rd	Pumphouse @ Rotary Park/Utilities Dept	$150,000
No address	Clarifier Bldg #1/Utilities Dept	$2,150,000
No address	Clarifier Bldg #2/Utilities Dept	$1,520,000
No address	Aerobic Digester Bldg/Utilities Dept	$750,000
122 Saddel Road	Bigwood Booster/Utilities Dept	$250,000
Trail Creek Well	Pumphouse @ Sun Valley/Utilities Dept	$250,000
No address	Blower Bldg #1/Utilities Dept	$500,000
1300 Warm Springs Rd	Water System Booster Station/Utilities Dept	$500,000
260 10th St	Ketchum Street Dept/Street Dept	$580,000
	New Street Dept Bldg/Street Dept	$2,369,000
991 Warm Springs Rd	Old Street Bldg/Street Dept	$614,000
531 5th Street	Bonning Cabin/Park Dept	$75,000

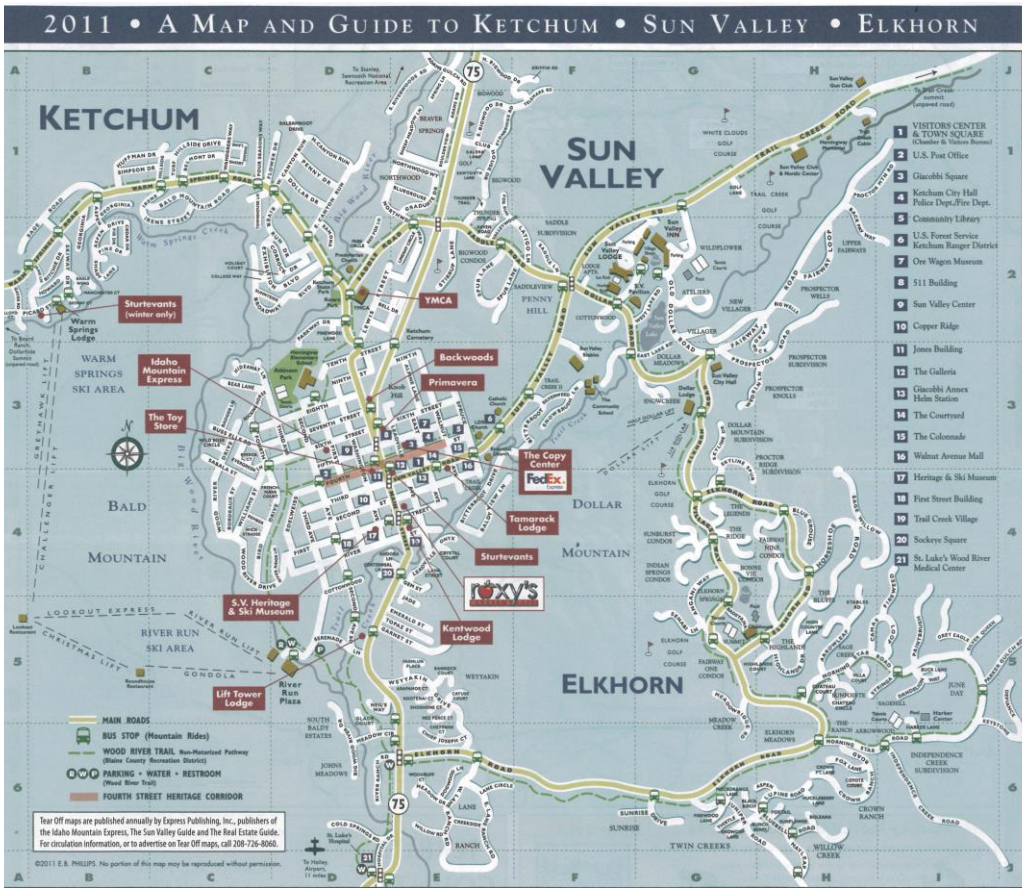
Address	Description	Value
120 1st St E	Building-Forest Service/Park Dept	$150,000
Lewis ST	Church/ Park Dept	$250,000
191 River St	Garage/Warehouse/Park Dept	$45,000
580 Main ST	Memory Park/Park Dept	$0
500 East Ave N	Ore Wagon Museum/Park Dept	$230,000
120 First Ave S	Public Restroom FS/Parks Dept	$150,000
900 Third Ave N	Atkinson Park Bldg/Restroom	$591,000
171 River St	Bldg/Single Family Dwelling/Park Dept	$250,000
Atkinson Park	Pumphouse @ Atkinson Park/ Park Dept	$4,200
	Tennis Court/Equip/Parks Dept	$20,000
	Bleachers/Park Dept	$30,000
	Picnic Shelter/Parks Dept	$4,000
900 Campus Way	Rental Dwlg/Dizzy's/Park Dept	$130,000
1173 Warm Springs Road	Rotary Park Picnic Shelter/Parks Dept	$12,000
	Rotary Park Restrooms/Parks Dept	$150,000
131 River ST	Single Family Dwelling	$150,000
180 First Street E	Ski Museum-FS/Parks Dept	$200,000
100 First Street E	Warehouse/FS/Parks Dept	$150,000
Total Value		**$25,633,200**

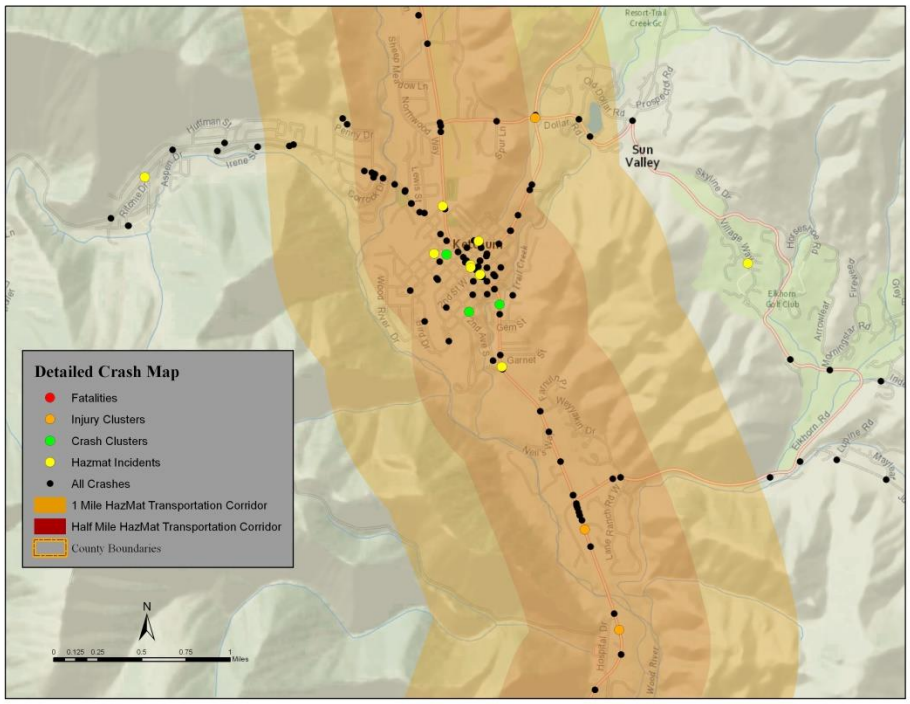
City of Ketchum Facilities

The listing of critical infrastructure for the City of Ketchum is provided above. The City owned infrastructure is vulnerable to damage caused by natural disasters. The City is vulnerable to wildfire, flood, mudslides, snow avalanches, and severe winter weather. The City is also vulnerable to drought and the potential releases of hazardous materials during transportation accidents specifically on State Highway 75.

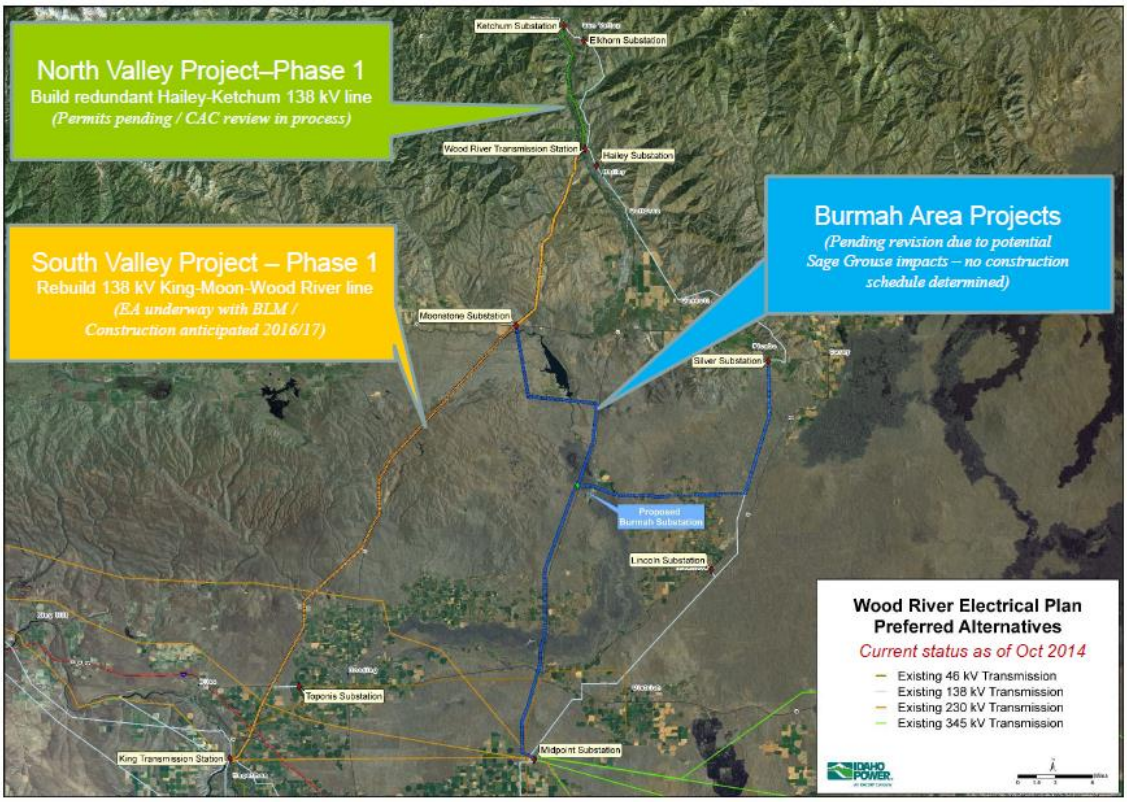
The map below illustrates the relationship between the City of Ketchum, the City of Sun Valley, and Elkhorn Village. These three internationally renowned communities are also vulnerable to terrorist threats. International and national celebrities and dignitaries are frequent visitors to these communities, which increases the risk to both residents and tourists.

The series of maps following this narrative juxtapose the city owned infrastructure against the locations of the wildland urban interface, the mean fire return interval analysis map, and the FEMA HAZUS floodplain map. The City is participating in the remapping of the National Flood Insurance Program floodplain remapping. The discovery risk map process, shown below, provides loss estimates as calculated for the community using HAZUS. The Risk Map report also provided suggested areas where mitigation could be initiated. The Floodplain Manager is addressing those recommendations.



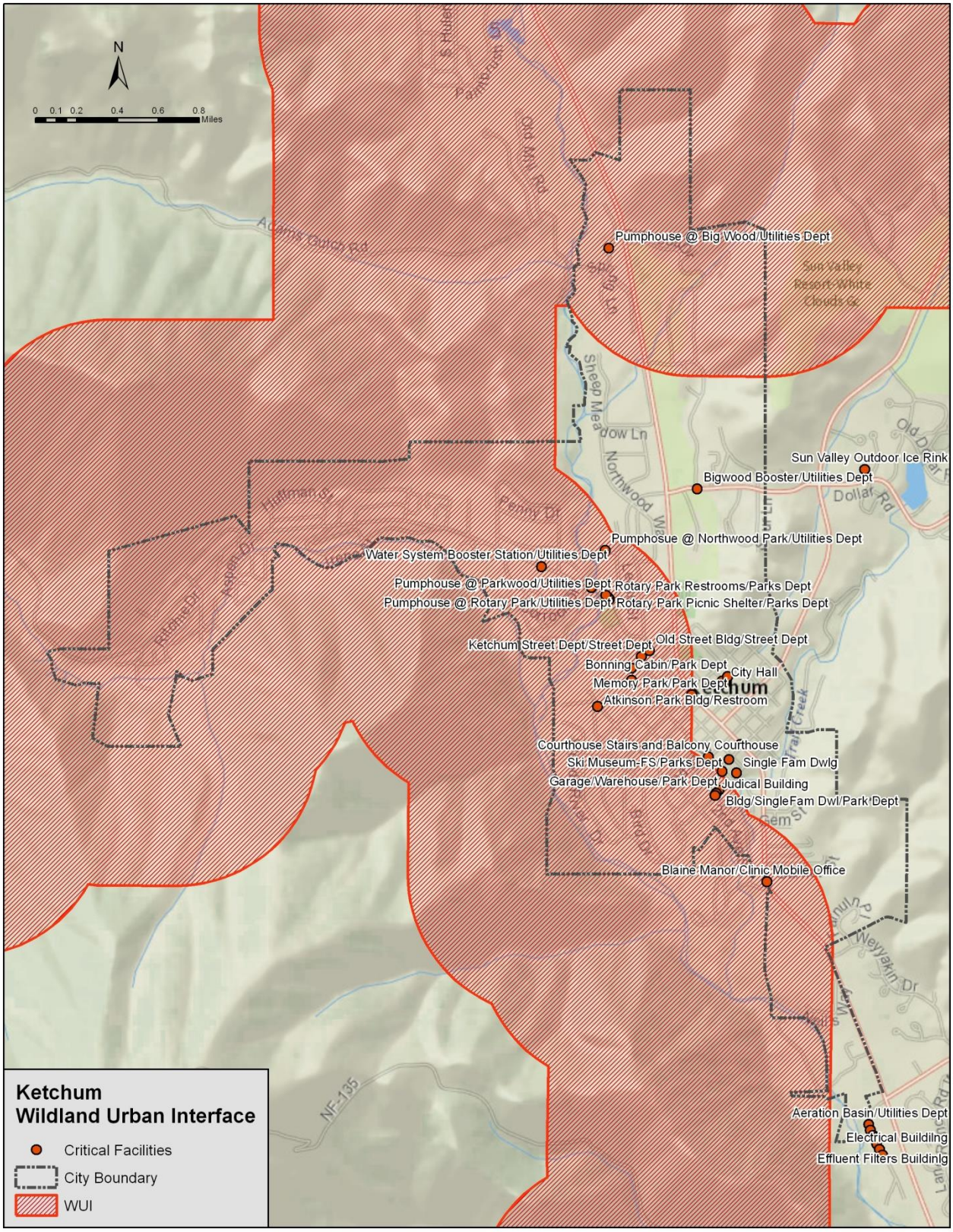


The map provides the traffic accident data for the community from January 2010 through December 2013. The data was compiled by the Idaho Transportation Department. The data was used to determine the potentiality of hazardous material transportation accidents within the City of Ketchum.



If the transmission line serving from the Wood River Transmission Station north to Ketchum/Sun Valley is taken out-of-service at any time of year, there would be no way to serve most of the load in the north end of the Valley. As mentioned before, an outage of this line could cause potential hardships to the citizens and businesses of the north Valley. Idaho Power maintains and patrols this line to a significantly higher degree than it does most other transmission lines in the Idaho Power system. But as this line ages, it will become more and more difficult to maintain its dependability. The line was built in 1962 and as the years go by, it can be expected that more failures will occur. And no matter how much maintenance is done on this line, forces of nature can cause it to fail.

Historically power outages have been the most costly consequence of natural disasters in Blaine County. By exposing the transmission lines to natural hazards that may occur in the area, it may cause extenuating circumstances. An acceptable method of mitigation is to bury the transmission lines to protect them from events when they occur.



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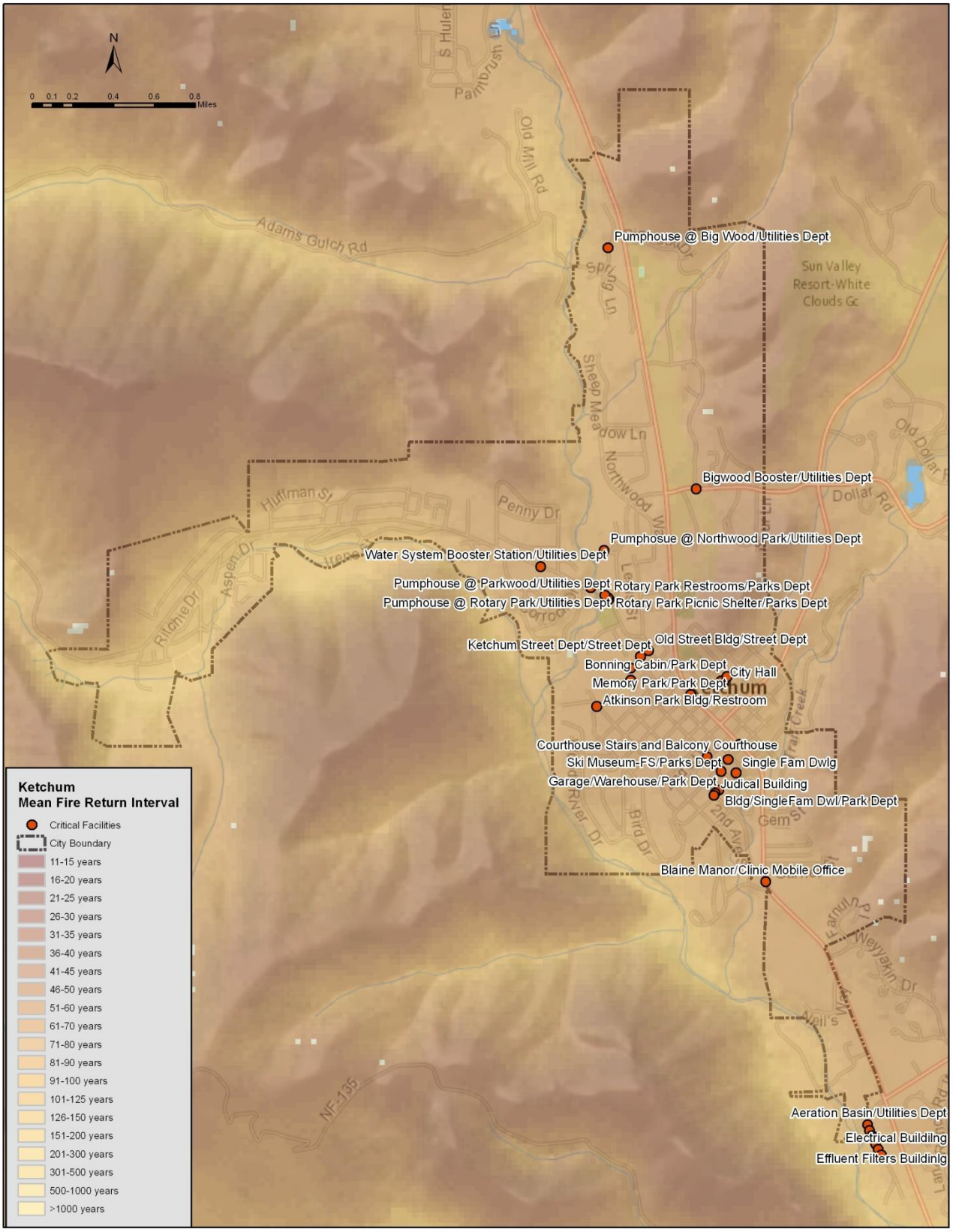
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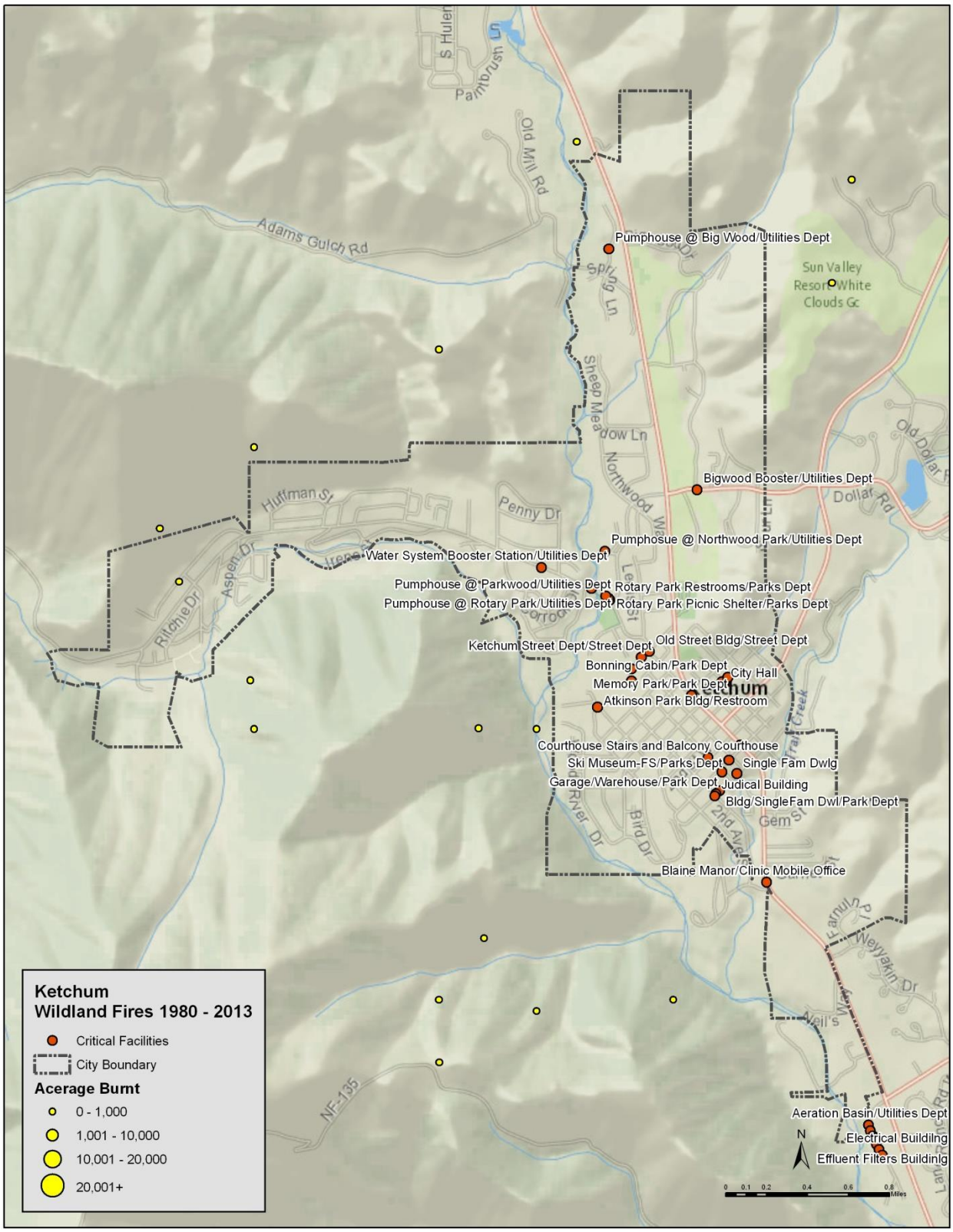
Miles
Pumphouse @ Big Wood/Utilities Dept
Bigwood Booster/Utilities Dept
Pumphosue @ Northwood Park/Utilities Dept
Water System Booster Station/Utilities Dept
Pumphouse @ Parkwood/Utilities Dept
Rotary Park Restrooms/Parks Dept
Pumphouse @ Rotary Park/Utilities Dept
Rotary Park Picnic Shelter/Parks Dept
Ketchum Street Dept/Street Dept
Old Street Bldg/Street Dept
Bonning Cabin/Park Dept
City Hall
Memory Park/Park Dept
Atkinson Park Bldg/Restroom
Courthouse Stairs and Balcony Courthouse
Ski Museum-FS/Parks Dept
Single Fam Dwlg
Garage/Warehouse/Park Dept
Judical Building
Bldg/SingleFam Dwl/Park Dept
Blaine Manor/Clinic Mobile Office
Aeration Basin/Utilities Dept
Electrical Buildilng
Effluent Filters Buildinlg
Adams Gulch Rd
Old Mill Rd
Spring Ln
Sheep Meadow Ln
Northwood Way
Penny Dr
Huffman St
Aspen Dr
Ritchie Dr
Sun Valley Resort-White Clouds Gc
Old Dollar Rd
Dollar Rd
River Dr
Bird Dr
Gem St
Weyyakin Dr
NF-135
Ketchum
Mean Fire Return Interval
Critical Facilities
City Boundary
11-15 years
16-20 years
21-25 years
26-30 years
31-35 years
36-40 years
41-45 years
46-50 years
51-60 years
61-70 years
71-80 years
81-90 years
91-100 years
101-125 years
126-150 years
151-200 years
201-300 years
301-500 years
500-1000 years
>1000 years



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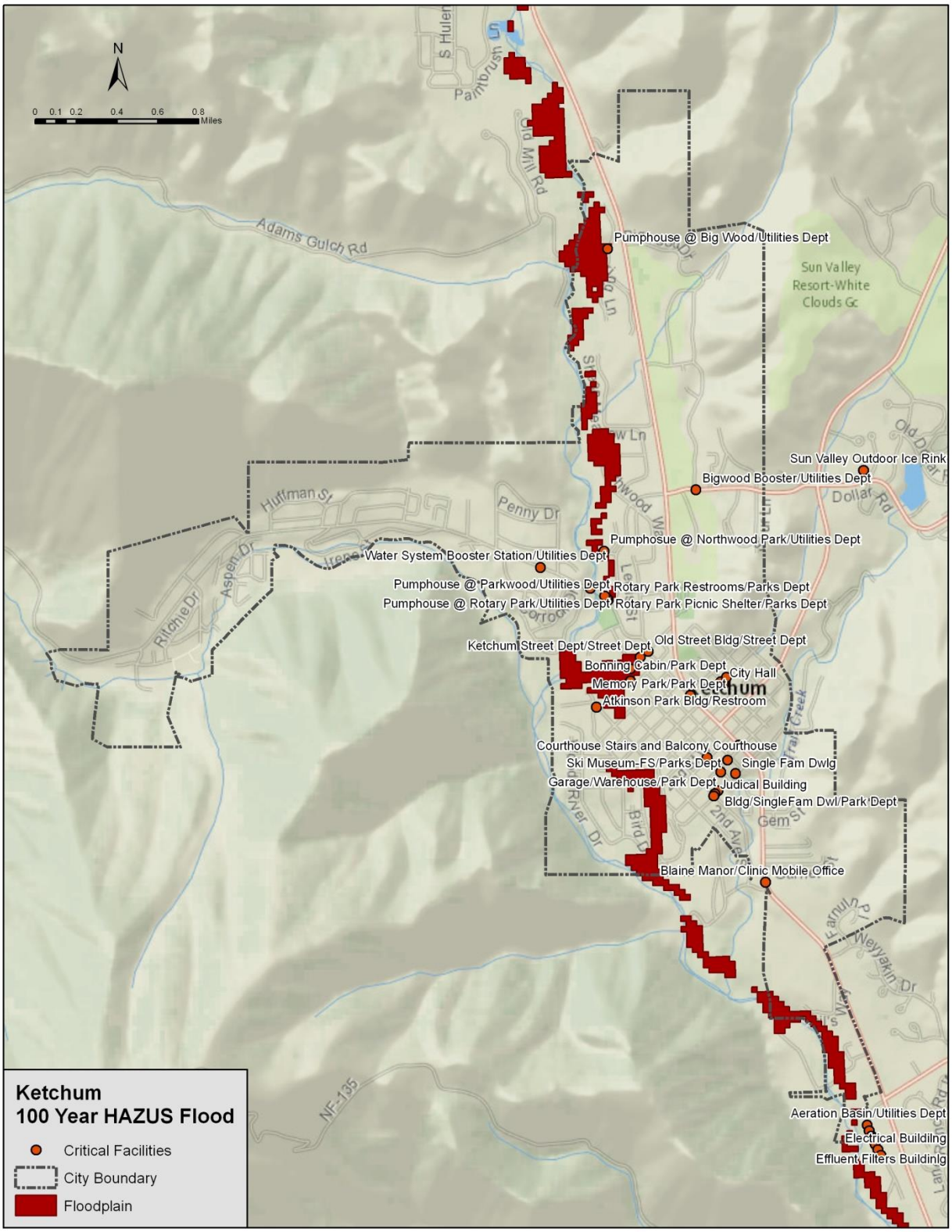


Official Use Only

3.6 City of Ketchum Summary (CID 160064)

Overview

The City of Ketchum is one of 3 cities located within Blaine County. The information below provides an overview of the community's floodplain management program information as of the date of this publication.

- Participating in National Flood Insurance Program (NFIP)
- Participating in NFIP Community Rating System (CRS)
- Included in the All-Hazards Mitigation Plan for Blaine County
- Past Federal Disaster Declarations for flooding = 1
- NFIP Policy Coverage (policies/value) = 126 policies totaling approximately $43,295,600
- NFIP-recognized repetitive loss properties = 0
- NFIP-recognized Severe Repetitive Loss properties = 0

HAZUS-MH Estimated Loss Information

Eagle Point's flood risk analysis uses results from a FEMA performed HAZUS-MH analysis which accounts for modeled areas in the study area. The analysis is based on multi-frequency Flood Depth grids (10%, 2%, and 0.5%)

Structure Related Losses	Total Inventory		10% (10-yr)		2% (50-yr)		0.5% (200-yr)	
	Estimated Value	Percent of Total	Dollar Losses	Loss Ratio	Dollar Losses	Loss Ratio	Dollar Losses	Loss Ratio
Residential Building/Contents	$498,267,000	66%	$13,301,000	78%	$858,000	83%	$18,703,000	79%
Commercial Building/Contents	$202,742,000	27%	$3,802,000	22%	$172,000	17%	$4,768,000	20%
Total Building/Contents	**$758,053,000**	**100%**	**$17,160,000**	**2.3%**	**$1,033,000**	**3%**	**$23,547,000**	**3.1%**

Hint: Loss Ratios are a useful gage to determine overall community resiliency.

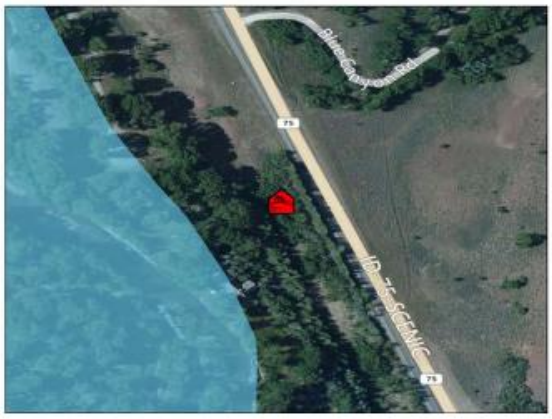
Population Impacts	10% (10-yr)	2% (50-yr)	0.5% (200-yr)
Shelter Needs	20	210	248
Displaced Population	38	335	389

Hint: Emergency Managers and Planners can use information about population impacts to prepare and plan for future shelter needs. When planning for shelter needs it is important to consider locations outside of the hazard areas that are accessible to impacted population.

Debris	10% (10-yr)	2% (50-yr)	0.5% (200-yr)
Debris (tons)	61.94	374.37	531.84

Hint: HAZUS calculated debris generation from building loss can help communities plan for the resources needed to help with clean up following a disaster.

Essential Facilities	Total	10% (10-yr)	2% (50-yr)	1% (100)-yr	0.5% (200-yr)
Fire Stations	1	0	0	0	0
Hospitals	0	0	0	0	0
Police Stations	1	0	0	1	0
Schools	1	0	0	0	0



This figure shows a fire department and its proximity to the effective floodplain.

55

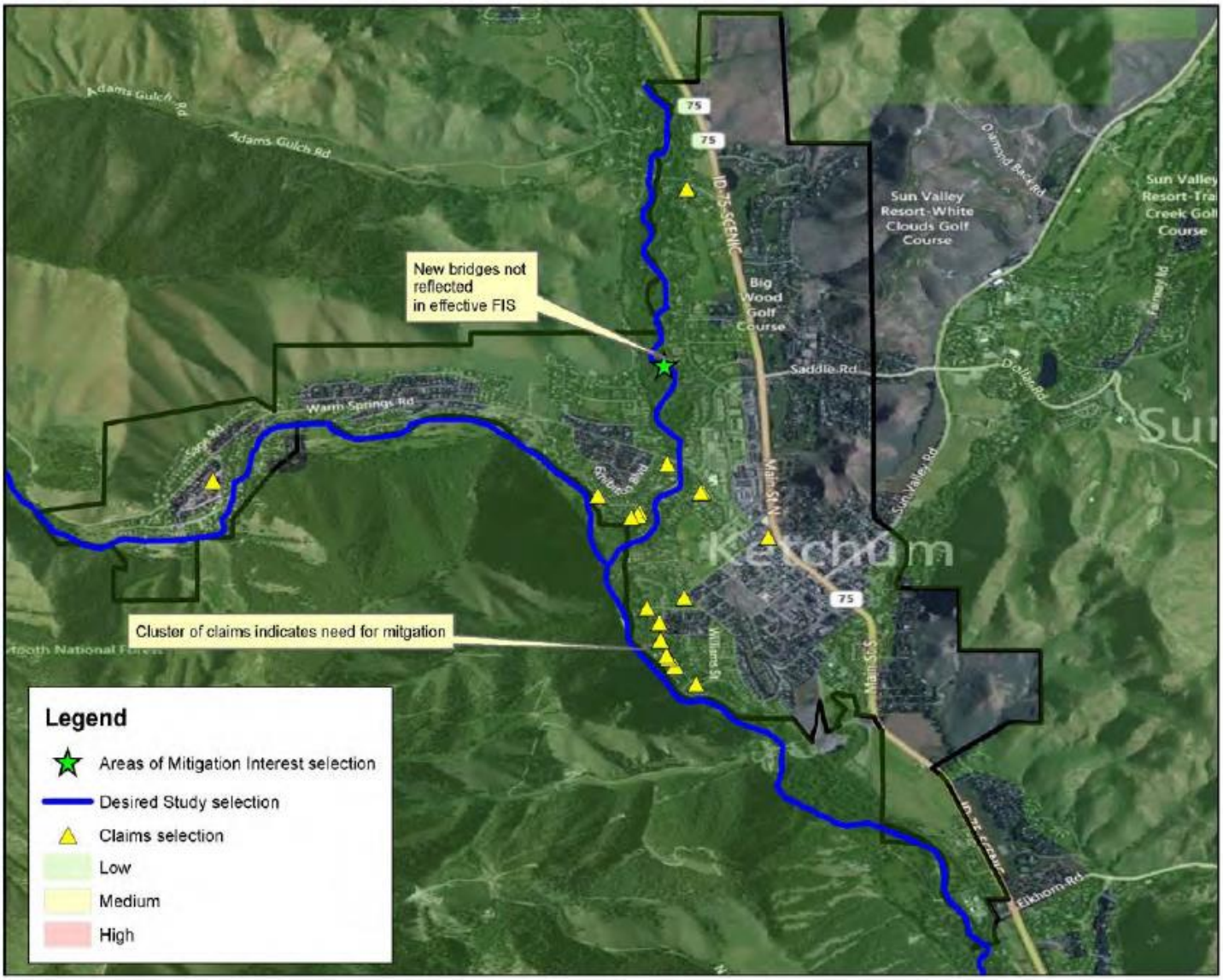
[55] Flood Risk Report, For the Big Wood Watershed Study Area, Draft April 12, 2014

Areas of Mitigation Interest (AOMI)

Section 2.2.3 of the Flood Risk Report provides more information regarding areas of mitigation interest, how they are defined for this analysis, and potential mitigation actions that could be considered for each type.

Mitigation Interest	Problem Statement	Included in HM Plan? (Y\N)
New Infrastructure	New and homes bridges have been constructed since the effective FIS was created. These structures may impact the floodplain.	
Past Claims Hot Spot	There are clusters of homes with flood claims indicating a need for mitigation measures.	

Table 4.1 provides information on possible actions to address Areas of Mitigation



This map summarizes the AOMI identified through the discovery process

CITY OF SUN VALLEY

Address	Description	Value
81 Elkhorn Road	City Hall	$1,500,000
Morningstar & Arrowleaf	Elkhorn Fire Station	$2,000,000
	Fire Station and Storage	$2,000,000
Total Value		**$5,500,000**

City of Sun Valley Facilities

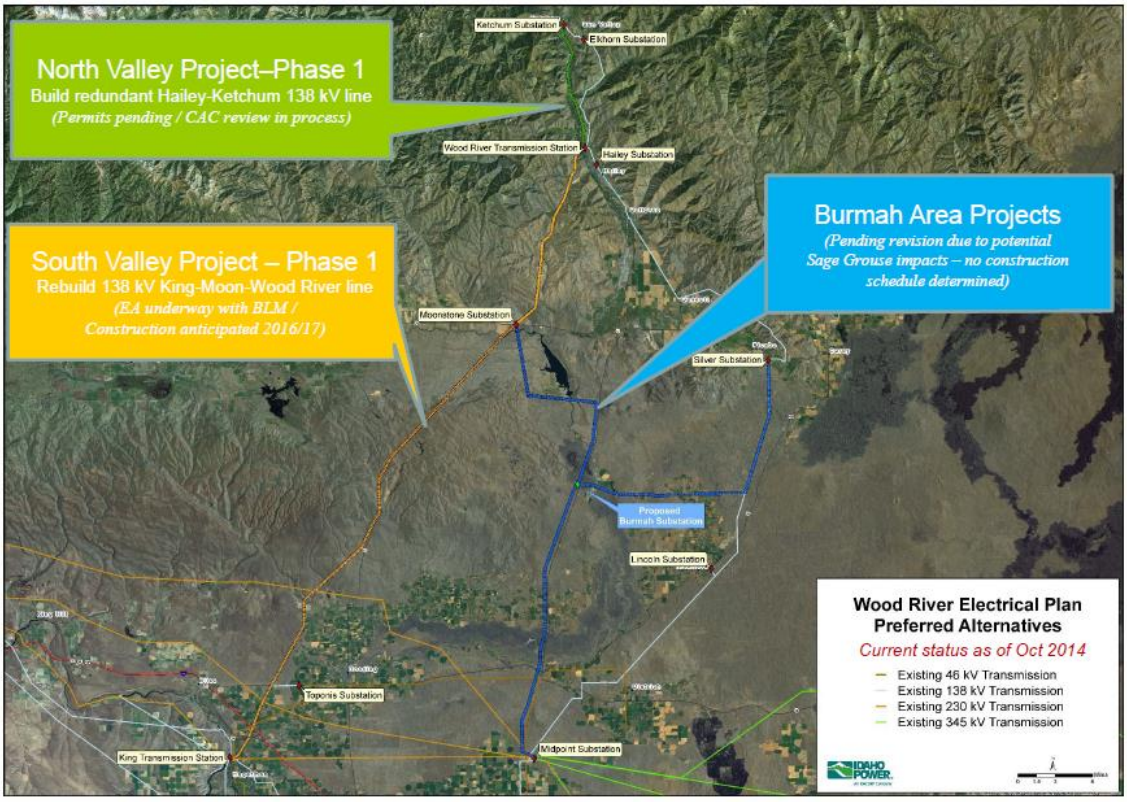
The listing of critical infrastructure for the City of Sun Valley is provided above. The City owned infrastructure is vulnerable to damage caused by natural disasters. The City is vulnerable to wildfire, flood, mudslides, snow avalanches, and severe winter weather. The City is also vulnerable to drought and the potential releases of hazardous materials from the Sun Valley Ice Rink.

The map below illustrates the relationship between the City of Ketchum, the City of Sun Valley, and Elkhorn Village. These three internationally renowned communities are also vulnerable to terrorist threats. International and national celebrities and dignitaries are frequent visitors to these communities which increases the risk to both residents and tourists.

The series of maps following this narrative juxtapose the City owned infrastructure against the locations of the wildland urban interface, the mean fire return interval analysis map, and the FEMA HAZUS floodplain map. The City is participating in the remapping of the National Flood Insurance Program floodplain remapping. The discovery risk map process, shown below provides loss estimates as calculated for the community using HAZUS. The Risk Map report also provided suggested areas where mitigation could be initiated. The Floodplain Manager is addressing those recommendations. The floodplain as illustrated in the Risk Map Report is much wider than the established 100 year floodplain or floodway.

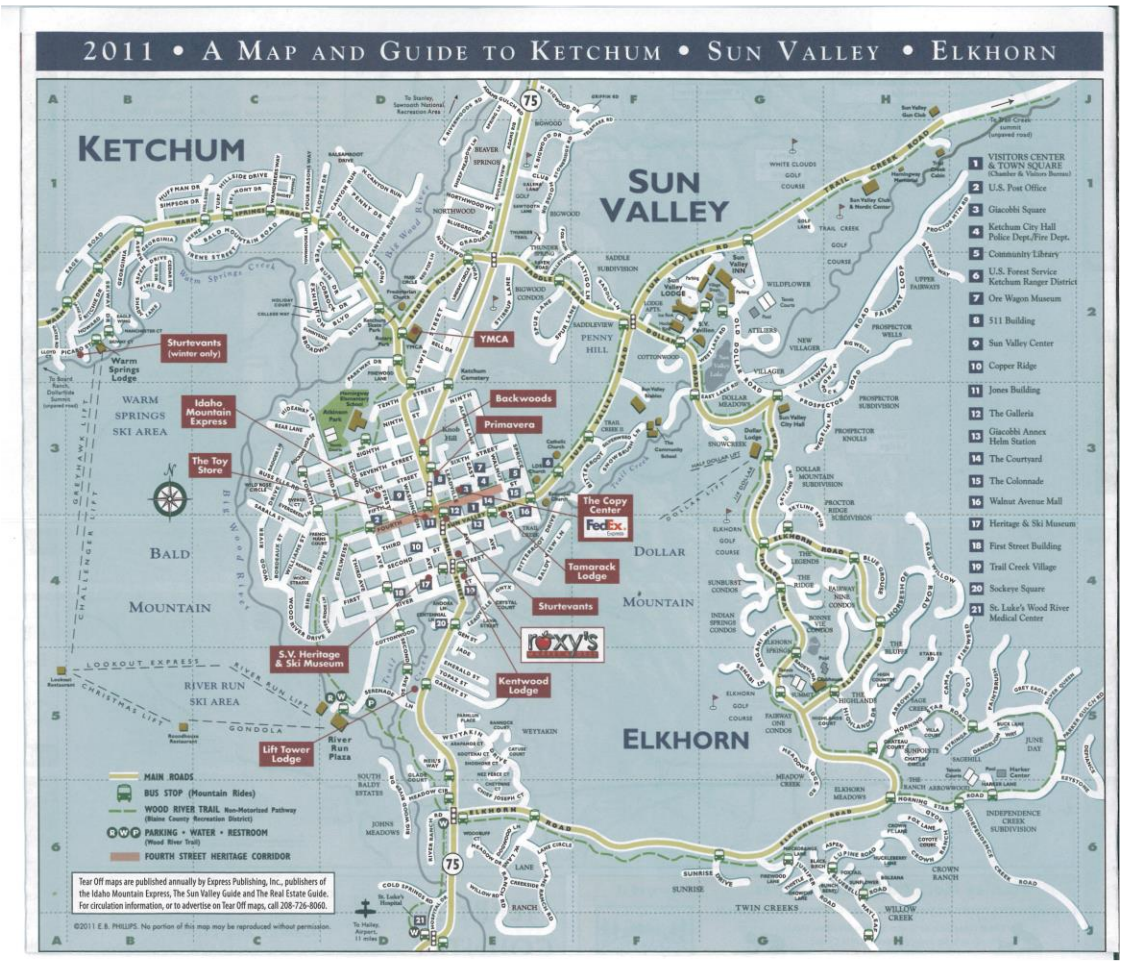
It should be noted that the entire City of Sun Valley exterior boundaries are within the wildland urban interface zone. The City has recognized this and has taken mitigation actions to reduce the fuel loading in this area, and has identified continued mitigation actions to maintain that fuel reduction.

The Hazardous Material Map, which is presented below, illustrates the protective action distance for a release of the entire anhydrous ammonia storage at the Sun Valley Ice Rink. Note that the PAD covers portions of the City of Ketchum as well.



If the transmission line serving from the Wood River Transmission Station north to Ketchum/Sun Valley is taken out-of-service at any time of year, there would be no way to serve most of the load in the north end of the Valley. As mentioned before, an outage of this line could cause potential hardships to the citizens and businesses of the north Valley. Idaho Power maintains and patrols this line to a significantly higher degree than it does most other transmission lines in the Idaho Power system. But as this line ages, it will become more and more difficult to maintain its dependability. The line was built in 1962 and as the years go by, it can be expected that more failures will occur. And no matter how much maintenance is done on this line, forces of nature can cause it to fail.

Historically power outages have been the most costly consequence of natural disasters in Blaine County. By exposing the transmission lines to natural hazards that may occur in the area, it may cause extenuating circumstances. An acceptable method of mitigation is to bury the transmission lines to protect them from events when they occur.


2011 • A MAP AND GUIDE TO KETCHUM • SUN VALLEY • ELKHORN
KETCHUM
SUN VALLEY
ELKHORN
WARM SPRINGS SKI AREA
BALD MOUNTAIN
RIVER RUN SKI AREA
DOLLAR MOUNTAIN
Sturtevants (winter only)
Warm Springs Lodge
Idaho Mountain Express
The Toy Store
YMCA
Backwoods
Primavera
The Copy Center
Tamarack Lodge
Sturtevants
S.V. Heritage & Ski Museum
Kentwood Lodge
Lift Tower Lodge
River Run Plaza
1 VISITORS CENTER & TOWN SQUARE (Chamber & Visitors Bureau)
2 U.S. Post Office
3 Giacobbi Square
4 Ketchum City Hall Police Dept./Fire Dept.
5 Community Library
6 U.S. Forest Service Ketchum Ranger District
7 Ore Wagon Museum
8 511 Building
9 Sun Valley Center
10 Copper Ridge
11 Jones Building
12 The Galleria
13 Giacobbi Annex Helm Station
14 The Courtyard
15 The Colonnade
16 Walnut Avenue Mall
17 Heritage & Ski Museum
18 First Street Building
19 Trail Creek Village
20 Sockeye Square
21 St. Luke's Wood River Medical Center
MAIN ROADS
BUS STOP (Mountain Rides)
WOOD RIVER TRAIL Non-Motorized Pathway (Blaine County Recreation District)
PARKING • WATER • RESTROOM (Wood River Trail)
FOURTH STREET HERITAGE CORRIDOR
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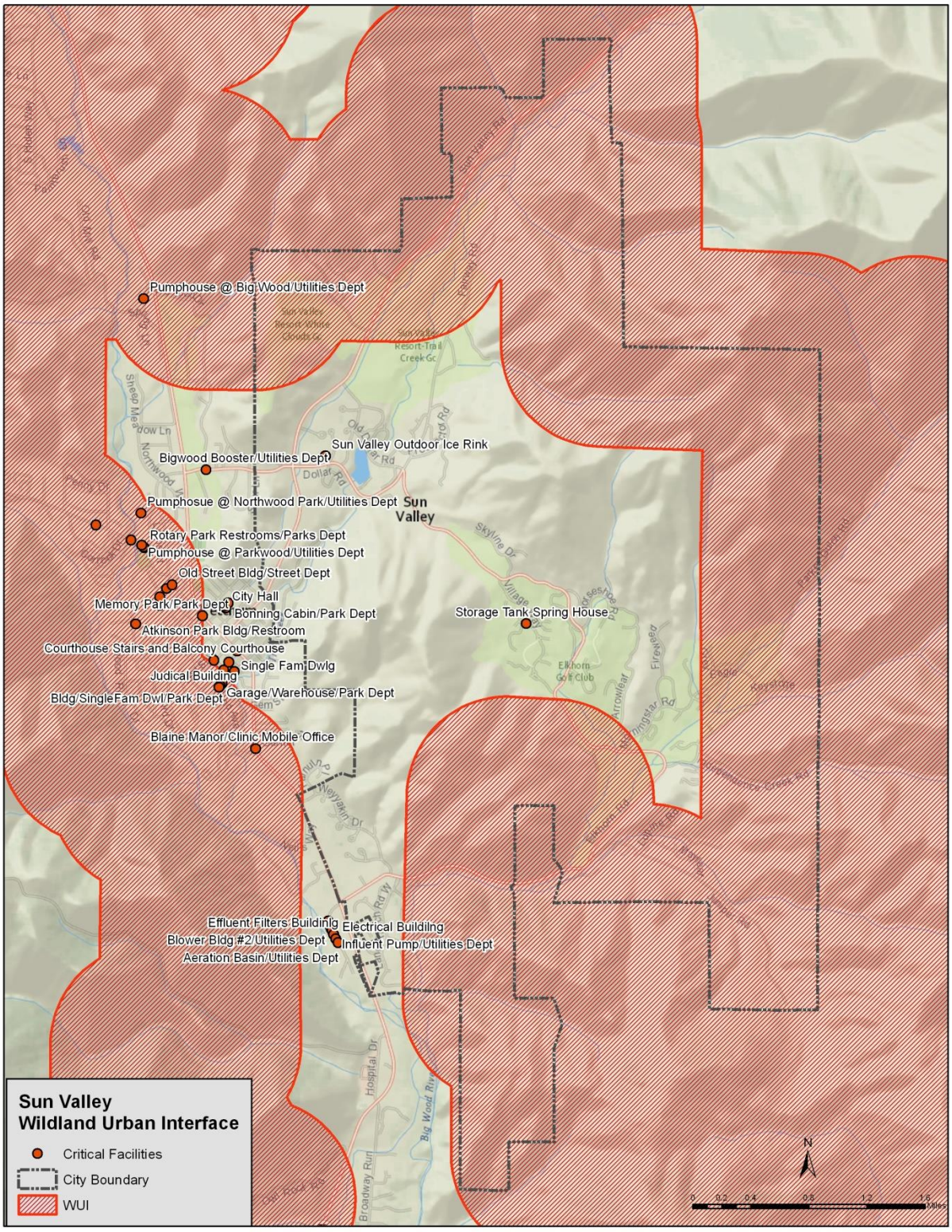

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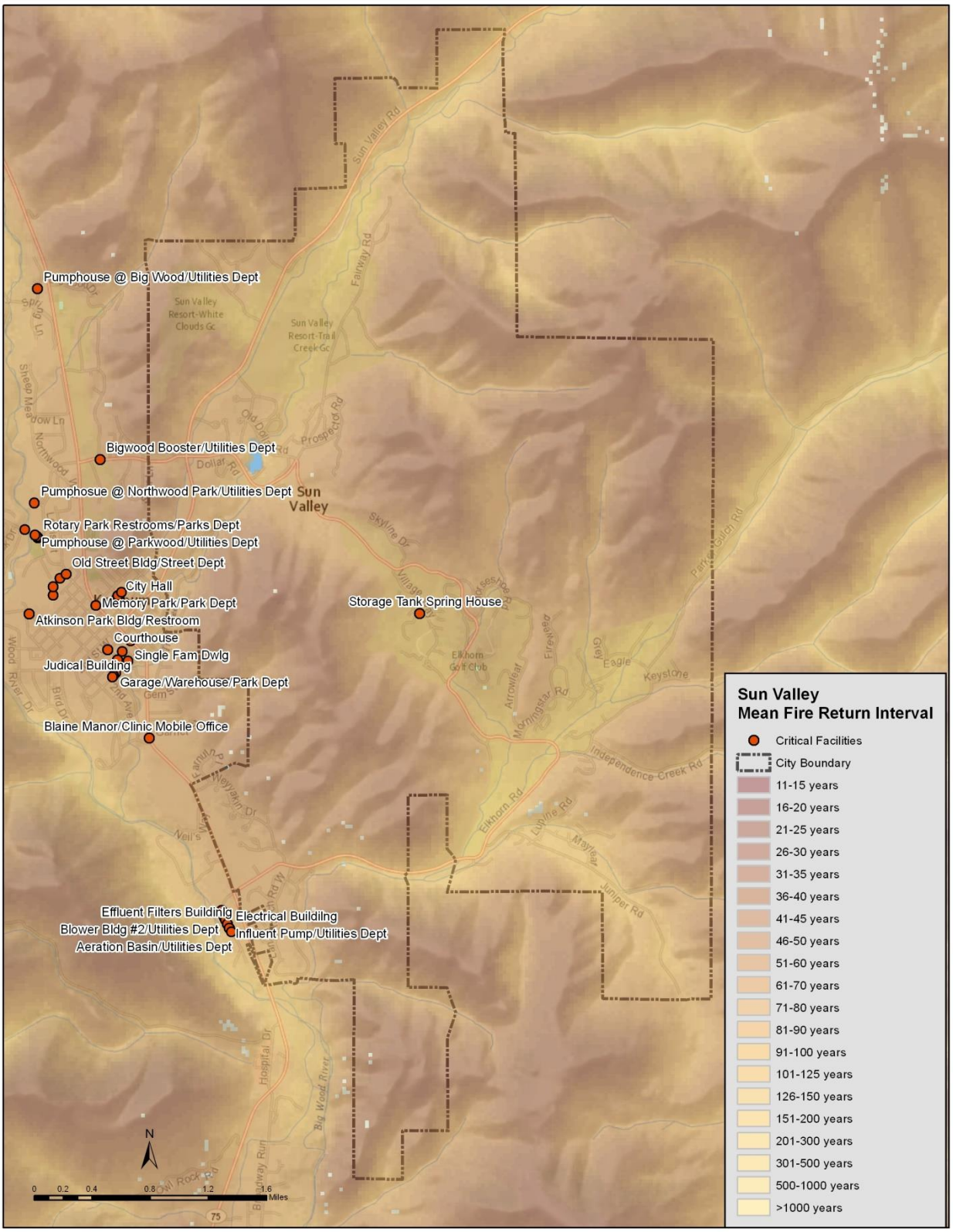
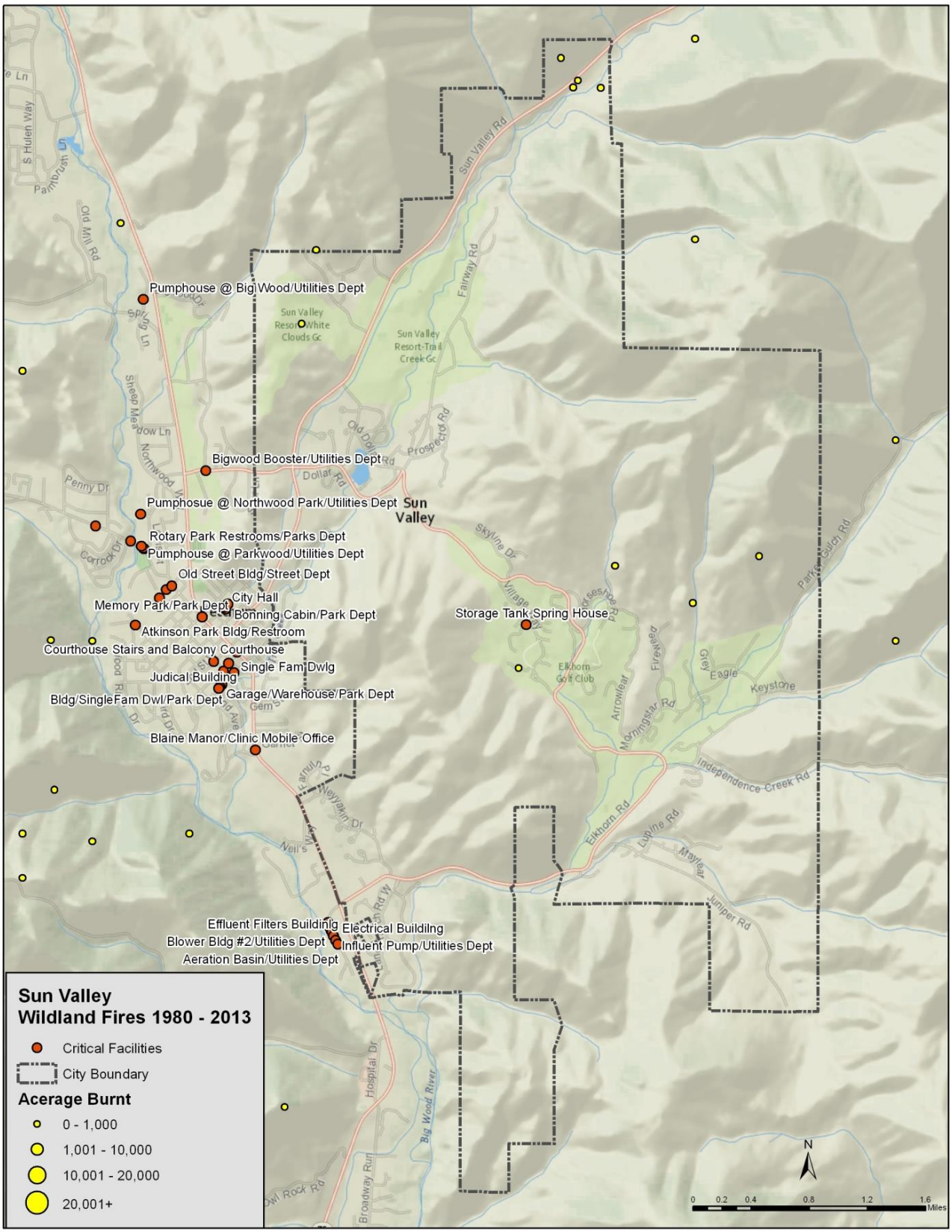

Sun Valley
Mean Fire Return Interval
Critical Facilities
City Boundary
11-15 years
16-20 years
21-25 years
26-30 years
31-35 years
36-40 years
41-45 years
46-50 years
51-60 years
61-70 years
71-80 years
81-90 years
91-100 years
101-125 years
126-150 years
151-200 years
201-300 years
301-500 years
500-1000 years
>1000 years
Pumphouse @ Big Wood/Utilities Dept
Bigwood Booster/Utilities Dept
Pumphosue @ Northwood Park/Utilities Dept
Rotary Park Restrooms/Parks Dept
Pumphouse @ Parkwood/Utilities Dept
Old Street Bldg/Street Dept
City Hall
Memory Park/Park Dept
Atkinson Park Bldg/Restroom
Courthouse
Single Fam Dwlg
Judical Building
Garage/Warehouse/Park Dept
Blaine Manor/Clinic Mobile Office
Storage Tank Spring House
Effluent Filters Building
Electrical Buildilng
Blower Bldg #2/Utilities Dept
Influent Pump/Utilities Dept
Aeration Basin/Utilities Dept
Sun Valley
Sun Valley Resort-White Clouds Gc
Sun Valley Resort-Trail Creek Gc
Elkhorn Golf Club
Sun Valley Rd
Fairway Rd
Prospect Rd
Dollar Rd
Skyline Dr
Elkhorn Rd
Independence Creek Rd
Keystone
Juniper Rd
Hospital Dr
Big Wood River
N
0 0.2 0.4 0.8 1.2 1.6 Miles



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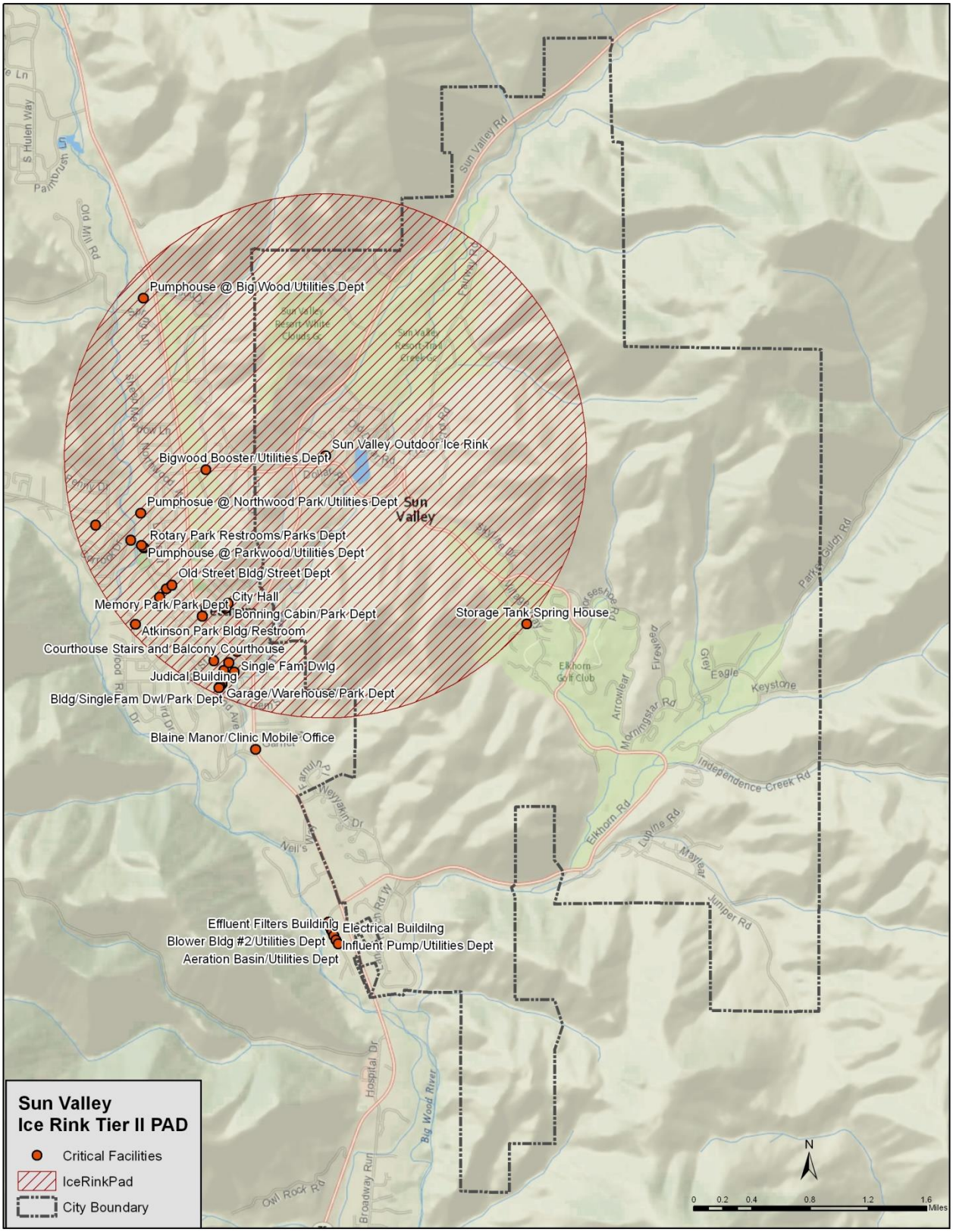


Official Use Only

3.7 City of Sun Valley Summary (CID 160024)

Overview

The City of Sun Valley is one of 3 cities located within Blaine County. The information below provides an overview of the community's floodplain management program information as of the date of this publication.

- Participating in National Flood Insurance Program (NFIP)
- Participating in NFIP Community Rating System (CRS)
- Included in the All-Hazards Mitigation Plan for Blaine County
- Past Federal Disaster Declarations for flooding = 1
- NFIP Policy Coverage (policies/value) = 34 policies totaling approximately $13,796,900
- NFIP-recognized repetitive loss properties = 0
- NFIP-recognized Severe Repetitive Loss properties = 0

HAZUS-MH Estimated Loss Information

Eagle Point's flood risk analysis uses results from a FEMA performed HAZUS-MH analysis which accounts for modeled areas in the study area. The analysis is based on multi-frequency Flood Depth grids (10%, 2%, and 0.5%)

Structure Related Losses	Total Inventory		10% (10-yr)		2% (50-yr)		0.5% (200-yr)	
	Estimated Value	Percent of Total	Dollar Losses	Loss Ratio	Dollar Losses	Loss Ratio	Dollar Losses	Loss Ratio
Residential Building/Contents	$419,580,000	90%	$3,506,000	97%	$1,945,000	97%	$4,087,000	97%
Commercial Building/Contents	$33,510,000	7.2%	$120,000	3.3%	$128,000	3.3%	$138,000	3.3%
Total Building/Contents	**$465,730,000**	**100%**	**$3,626,000**	**.08%**	**$3,855,000**	**.78%**	**$4,225,000**	**.91%**

Hint: Loss Ratios are a useful gage to determine overall community resiliency.

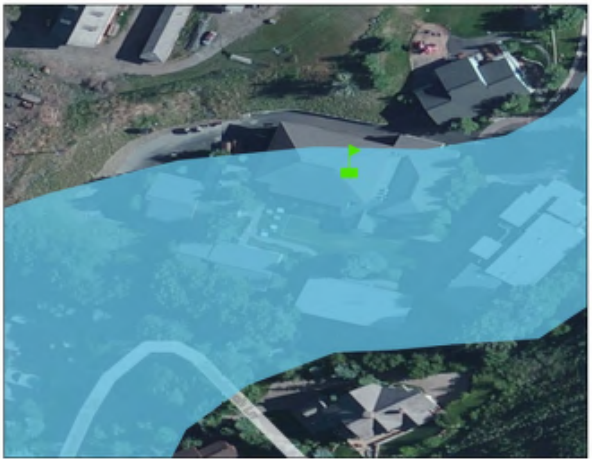
Population Impacts	10% (10-yr)	2% (50-yr)	0.5% (200-yr)
Shelter Needs	28	31	32
Displaced Population	47	50	52

Hint: Emergency Managers and Planners can use information about population impacts to prepare and plan for future shelter needs. When planning for shelter needs it is important to consider locations outside of the hazard areas that are accessible to impacted population.

Debris	10% (10-yr)	2% (50-yr)	0.5% (200-yr)
Debris (tons)	73.45	77.58	88.21

Hint: HAZUS calculated debris generation from building loss can help communities plan for the resources needed to help with clean up following a disaster.

Essential Facilities	Total	10% (10-yr)	2% (50-yr)	1% (100)-yr	0.5% (200-yr)
Fire Stations	1	0	0	0	0
Hospitals	0	0	0	0	0
Police Stations	1	0	0	0	0
Schools	1	1	1	1	1



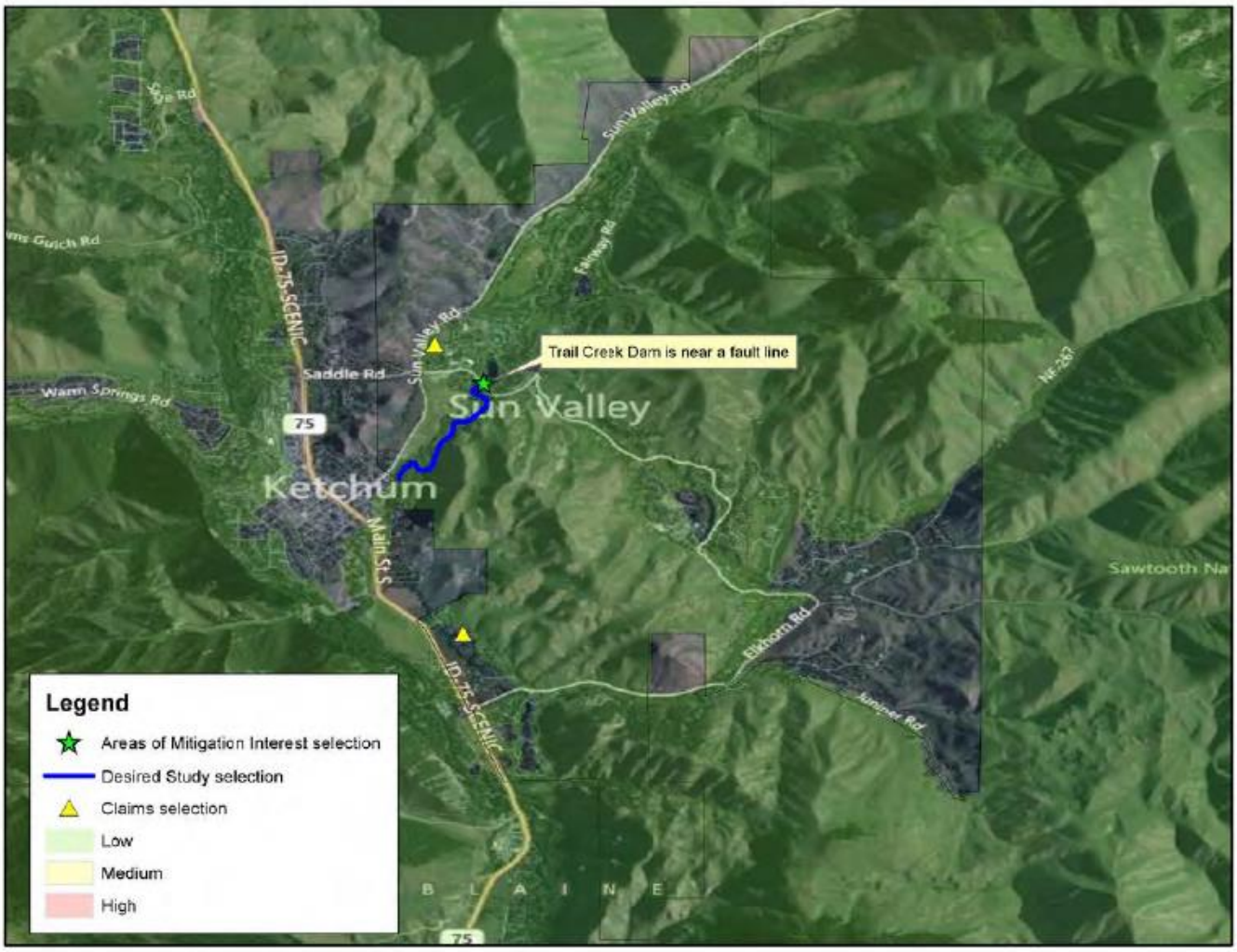
This figure shows a school in the effective floodplain.

Areas of Mitigation Interest (AOMI)

Section 2.2.3 of the Flood Risk Report provides more information regarding areas of mitigation interest, how they are defined for this analysis, and potential mitigation actions that could be considered for each type.

Mitigation Interest	Problem Statement	Included in HM Plan? (Y\N)
Trail Creek Dam	The Trail Creek Dam is near a fault line. Seismic retrofits and education of seismic risks will reduce the flood hazard.	
Past Claims	There are two homes with flood claims indicating a need for mitigation measures.	

Table 4.1 provides information on possible actions to address Areas of Mitigation



This map summarizes the AOMI identified through the discovery process

56

[56] Flood Risk Report, For the Big Wood Watershed Study Area, Draft April 12, 2014

RISK ASSESSMENT

2009 RISK SEVERITY RANKING

Each hazard was scored as to magnitude and frequency of occurrence. The table below provides an overall ranking of the hazards by magnitude. Boxes highlighted in Red indicate the highest magnitude; boxes highlighted in yellow indicate the medium magnitude with green boxes signifying the lowest magnitude. Repetitive loss is used specifically to aide in the prioritization projects identified for risk reduction. Risk reduction activities are based on the overall risks rankings which are determined using processes described above. The hazards are placed in the risk ranking table on a comparative scale which is used to determine the priorities for risk reduction.

The highest score would be a high frequency and a high magnitude as depicted in the lower right hand box of each ranking table.

Frequency	Magnitude (Low) 1	Magnitude (Medium) 2	Magnitude (High) 3
(Low) 1	Extreme Heat Riot/Civil Disobedience/Demonstration	Communicable Disease	Dam Failure Terrorism Nuclear Mad Cow Disease Hoof and Mouth Disease
(Medium) 2		Landslide Tornado Drought	Earthquake River/Stream Flooding
(High) 3	Hail Straight Line Wind Lightning West Nile Virus	Flash Flood Structure Fire	Wildfire Snow Avalanche Extreme Cold Winter Storm Hazardous Materials Aircraft Incident ***Power Outage***

2014 RISK SEVERITY RANKING

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Wildfire	3	4	4	2	4	**18**	**H**
Severe Winter Storms	3	4	3	4	3	**17**	**H**
Drought	3	4	2	4	3	**16**	**H**
River Flooding	3	4	3	3	3	**16**	**H**
Hazardous Matertials	2	4	2	3	3	**14**	**M**
Communicable Disease	1	2	3	4	4	**14**	**M**
Flash Flooding	3	4	3	2	2	**14**	**M**
Severe Weather	3	4	2	2	3	**14**	**M**
Landisdes	2	4	2	2	2	**12**	**M**
Avalanche	2	4	2	2	2	**12**	**M**
Structure Fire	3	4	2	1	2	**12**	**M**
Earthquake	2	3	3	2	2	**12**	**M**
Terrorism	0	2	3	3	4	**12**	**M**
Vector Borne Disease	1	1	2	2	2	**8**	**L**
Nuclear Event	0	1	2	2	3	**8**	**L**
Dam Failure	0	1	1	1	1	**4**	**L**
Riot/Demonstration/Civil Disobedience	0	1	1	1	1	**4**	**L**

Blaine County Idaho is vulnerable to several natural hazards at varying levels as depicted in the risk ranking above. The County has experienced severe winter storms, drought, river flooding on both the Big Wood and Little Wood Rivers, and wildfires. The County has experienced 916 reported wildfires between 1980 and 2013. Two major wildfires, the Castle Rock Fire in 2007 and the Beaver Creek Fire in 2012, had devastating effects on the communities.

The burned areas from the wildfires referenced have increased the frequency and magnitude of mud slides and flash floods. The effects of drought exacerbate the fire risk in the County, as well as decreased protective plants, which increase the risk to mudslides.

The County has determined that the largest single vulnerability is the single loop electrical power supply into the Cities of Ketchum and Sun Valley, as well as communities located north of the Cities. A Community Action Committee was formed in 2007 to work with Idaho Power to address this vulnerability and to resolve the issue through building an additional transmission line and upgrading existing service capabilities. While power outages were listed as a hazard in the 2009 version of the Blaine County Multi-Jurisdiction All Hazard Mitigation Plan, in reality the outages themselves cause hazardous conditions for the community if they are caused by the impacts of natural and manmade hazards. Hazard reduction through strategically defined mitigation actions may reduce the potential of a power outage; however, installation of additional service capability is a needed step to increase redundant electrical power transmission to the County north of Hailey.

REPETITIVE LOSS SUMMARY

The City of Hailey has two repetitive loss properties. Additionally there have been areas in the County that flood repetitively; however, very little damage occurs because of the controls placed by the County and the Cities on building in the floodplain and flood prone areas.

There is some repetitive loss due to landslides and avalanches. The losses are generally in the cost of repairs and cleanup on State and County roadways. There are also repetitive losses due to extreme cold. These losses are primarily associated with loss to water system infrastructure due to freezing pipes during extended cold weather periods.

The largest repetitive loss in Blaine County is due to ***power outages***. Therefore the *single most serious vulnerability* in Blaine County is power outages. Because of the remoteness of the Wood River Valley from other support services, the loss of commercial power due to a natural or man-made hazard has the potential to cause serious life safety issues to the residents of the community. Various natural and manmade disasters can, and do affect the electrical infrastructure in the County. Currently there is no redundancy built into the major transmission lines that feed electricity into the County; of special concern are the areas north of Hailey, including the Cities of Ketchum and Sun Valley.

The following hazards pose a threat to the electrical infrastructure in Blaine County:

- Severe Winter Storm
- Lightning
- Hail
- Tornado
- Straight Line Wind
- Earthquake
- Landslide/Mudslide
- Wildland Fire

Of the aforementioned hazards seven (7) are surface hazards; they occur above ground, and one (1), earthquake, occurs below ground, but affects both above and below ground. The existing transmission lines are run above ground, which is a standard procedure.[57]

Outage Type	Total Events	Occ/yr	Duration (min)	Duration/Occ (min)
Maintenance	3	0.152	554	184.67
Sustained Unplanned	3	0.152	189	63.00
Momentary Unplanned	2	0.101	na	
Loss of Southern 138kV (mom and sustained)	6	0.304	756	126.00

Idaho Power Outages 1995-2014

[57] Idaho Power, Wood River Electrical Plan. December 2007

As of April, 2014, Blaine County has received drought declarations in eight (8) of the last 11 years. Drought impacts water quantity for domestic use, agricultural, industrial, institutional and commercial use, wildlife use, recreational use, and even aesthetic uses. Surface water is fully appropriated in the Big and Little Wood River Drainages. So ground water is the primary alternative to supplement supply during a drought.

Drought impacts water quality. Surface water temperatures increase in drought conditions. The Big Wood River Basin is more vulnerable to drought than other drainages because it has no storage facility above Magic Reservoir though some groundwater recharge areas have been established within the past decade. Most municipal water supplies in this county rely on a combination of ground water from mountain springs and valley wells. Typically, problems occur when the mountain springs flows are reduced due to the drought conditions.

After the severe 1987-94 drought, most municipal and domestic systems in Idaho were adequate. This was in large part because a majority, 90 percent, of the municipal and domestic supplies comes from deeper ground water sources. Major deep ground water aquifers are not as susceptible to rapid fluctuation as shallow aquifers or surface water.

The County has added the following goals to the AHMP along with the comments as indicate in the bullets below.

- Evaluate potential for supply augmentation, primarily from expansion of groundwater supplies.
    - Unincorporated Blaine County has no public or municipal system. All water, whether for small communities or individuals, is “self-supplied” via state regulated surface or ground water.
    - Accordingly, Blaine County has a very limited role in supply augmentation.
    - Surface water irrigation systems lose water and thus augment the groundwater system.
    - No larger scale water re-use or recycling programs exist in the unincorporated county. The Ketchum/Sun Valley Sewer & Water District has recently developed a grey water re-use system for golf course irrigation and other possible needs.
- Evaluate demand reduction measures
    - With no public or municipal system, Blaine County has very little authority to control demand or impose reductions.
    - Municipal water entities can, and most do in this area, encourage water conservation by alternate-day lawn watering, limiting watering times and use/pricing techniques.

INDIVIDUAL JURISDICTIONAL RISK RANKINGS

CITY OF BELLEVUE

Magnitude/Frequency

	Low	Medium	High
Low	Tornado Extreme Heat Riot/Civil Disobedience/Demonstration Dam Failure	Communicable Disease Nuclear Landslide Mad Cow Disease Hoof and Mouth Disease	Terrorism Aircraft Incident
Medium		Drought	Earthquake River/Stream Flooding
High	Hail Straight Line Wind Lightning West Nile Virus	Flash Flood Structure Fire	Wildfire Snow Avalanche Extreme Cold Winter Storm Hazardous Materials ***(Power Outage)***

City of Bellevue 2009 Risk Ranking

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Severe Winter Storms	3	4	3	4	3	**17**	**H**
Drought	3	4	2	4	3	**16**	**H**
River Flooding	3	4	3	3	3	**16**	**H**
Wildfire	3	4	3	2	3	**15**	**H**
Hazardous Matertials	2	4	2	3	3	**14**	**M**
Communicable Disease	1	2	3	4	4	**14**	**M**
Flash Flooding	3	4	3	2	2	**14**	**M**
Severe Weather	3	4	2	2	3	**14**	**M**
Landisdes	2	4	2	2	2	**12**	**M**
Avalanche	2	4	2	2	2	**12**	**M**
Structure Fire	3	4	2	1	2	**12**	**M**
Earthquake	2	3	3	2	2	**12**	**M**
Terrorism	0	2	3	3	4	**12**	**M**
Vector Borne Disease	1	1	2	2	2	**8**	**L**
Nuclear Event	0	1	2	2	3	**8**	**L**
Dam Failure	0	1	1	1	1	**4**	**L**
Riot/Demonstration/Civil Disobedience	0	1	1	1	1	**4**	**L**

City of Bellevue 2014 Risk Ranking

CITY OF CAREY

Magnitude/Frequency

	Low	Medium	High
Low	Extreme Heat Riot/Civil Disobedience/Demonstration Aircraft Incident Landslide Snow Avalanche	Communicable Disease Terrorism	Dam Failure Nuclear Mad Cow Disease Hoof and Mouth Disease
Medium		Tornado	Earthquake River/Stream Flooding Drought
High	Hail Straight Line Wind Lightning West Nile Virus	Flash Flood Structure Fire	Wildfire Extreme Cold Winter Storm Hazardous Materials ***(Power Outage)***

City of Carey 2009 Risk Ranking

City of Carey 2009 Risk Ranking

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Wildfire	3	4	4	3	4	**18**	**H**
Severe Winter Storms	3	4	3	4	3	**17**	**H**
Drought	3	4	4	4	2	**17**	**H**
River Flooding	3	4	3	2	3	**15**	**H**
Communicable Disease	1	2	3	4	4	**14**	**M**
Flash Flooding	3	4	3	2	2	**14**	**M**
Severe Weather	3	4	2	2	3	**14**	**M**
Hazardous Matertials	3	4	2	2	2	**13**	**M**
Structure Fire	3	4	2	1	2	**12**	**M**
Earthquake	2	3	3	2	2	**12**	**M**
Dam Failure	0	2	3	2	2	**9**	**L**
Landisdes	2	3	1	1	1	**8**	**L**
Vector Borne Disease	1	1	2	2	2	**8**	**L**
Nuclear Event	0	1	2	2	3	**8**	**L**
Riot/Demonstration/Civil Disobedience	0	1	2	2	3	**8**	**L**
Terrorism	0	2	1	1	1	**5**	**L**
Avalanche	0	1	1	1	1	**4**	**L**

CITY OF HAILEY

Magnitude/Frequency

	Low	Medium	High
Low	Tornado Extreme Heat Riot/Civil Disobedience/Demonstration Dam Failure	Communicable Disease Nuclear Mad Cow Disease Hoof and Mouth Disease	Terrorism
Medium		Drought	Earthquake River/Stream Flooding
High	Hail Straight Line Wind Lightning West Nile Virus	Flash Flood Structure Fire	Wildfire Landslide Snow Avalanche Extreme Cold Winter Storm Hazardous Materials Aircraft Incident ***(Power Outage)***

City of Hailey 2009 Risk Ranking

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Severe Winter Storms	3	4	3	4	3	17	H
Drought	3	4	2	4	3	16	H
Structure Fire	3	4	3	2	3	15	H
Hazardous Matertials	2	4	2	3	3	14	M
Wildfire	3	4	2	2	3	14	M
Flash Flooding	3	4	3	2	2	14	M
Severe Weather	3	4	2	2	3	14	M
River Flooding	3	4	2	2	2	13	M
Landisdes	2	4	2	2	2	12	M
Avalanche	2	4	2	2	2	12	M
Communicable Disease	1	2	2	4	3	12	M
Earthquake	2	3	3	2	2	12	M
Terrorism	0	2	3	3	4	12	M
Vector Borne Disease	1	1	2	2	2	8	L
Nuclear Event	0	1	2	2	3	8	L
Dam Failure	0	1	1	1	1	4	L
Riot/Demonstration/Civil Disobedience	0	1	1	1	1	4	L

City of Hailey 2014 Risk Ranking

CITY OF KETCHUM

Magnitude/Frequency

	Low	Medium	High
Low	Tornado Extreme Heat Riot/Civil Disobedience/Demonstration	Communicable Disease Aircraft Incident Nuclear Mad Cow Disease Hoof and Mouth Disease	Terrorism
Medium	Dam Failure	Drought	Earthquake River/Stream Flooding
High	Hail Straight Line Wind Lightning West Nile Virus	Flash Flood Structure Fire	Wildfire Landslide Snow Avalanche Extreme Cold Winter Storm Hazardous Materials ***(Power Outage)***

City of Ketchum 2009 Risk Ranking

City of Ketchum 2014 Risk Ranking

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Wildfire	3	4	4	3	4	**18**	**H**
Severe Winter Storms	3	4	3	4	3	**17**	**H**
Drought	3	4	4	4	2	**17**	**H**
River Flooding	3	4	3	2	3	**15**	**H**
Hazardous Matertials	3	4	2	3	3	**15**	**H**
Communicable Disease	1	2	3	4	4	**14**	**M**
Flash Flooding	3	4	3	2	2	**14**	**M**
Severe Weather	3	4	2	2	3	**14**	**M**
Landisdes	3	4	3	2	2	**14**	**M**
Avalanche	3	4	2	2	3	**14**	**M**
Structure Fire	3	4	2	1	2	**12**	**M**
Earthquake	2	3	3	2	2	**12**	**M**
Terrorism	0	2	3	3	4	**12**	**L**
Riot/Demonstration/Civil Disobedience	1	2	2	2	3	**10**	**L**
Vector Borne Disease	1	1	2	2	2	**8**	**L**
Dam Failure	0	1	1	1	1	**4**	**L**
Nuclear Event	0	1	1	1	1	**4**	**L**

CITY OF SUN VALLEY

Magnitude/Frequency

	Low	Medium	High
Low	Tornado Extreme Heat Riot/Civil Disobedience/Demonstration	Communicable Disease Aircraft Incident Nuclear Mad Cow Disease Hoof and Mouth Disease	Dam Failure Terrorism
Medium		Landslide Drought	Earthquake River/Stream Flooding
High	Hail Straight Line Wind Lightning West Nile Virus	Flash Flood Structure Fire	Wildfire Snow Avalanche Extreme Cold Winter Storm Hazardous Materials ***(Power Outage)***

City of Sun Valley 2009 Risk Ranking

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Wildfire	3	4	4	3	4	**18**	**H**
Severe Winter Storms	3	4	3	4	3	**17**	**H**
Drought	3	4	4	4	2	**17**	**H**
Hazardous Matertials	3	4	3	3	3	**16**	**H**
Communicable Disease	1	2	3	4	4	**14**	**M**
Flash Flooding	3	4	3	2	2	**14**	**M**
Severe Weather	3	4	2	2	3	**14**	**M**
Landisdes	3	4	3	2	2	**14**	**M**
Avalanche	3	4	2	2	3	**14**	**M**
Structure Fire	3	4	2	1	2	**12**	**M**
Earthquake	2	3	3	2	2	**12**	**M**
Terrorism	0	2	3	3	4	**12**	**M**
Riot/Demonstration/Civil Disobedience	1	2	2	2	3	**10**	**L**
Vector Borne Disease	1	1	2	2	2	**8**	**L**
River Flooding	1	2	1	1	1	**6**	**L**
Dam Failure	0	1	1	1	1	**4**	**L**
Nuclear Event	0	1	1	1	1	**4**	**L**

City of Sun Valley 2014 Risk Ranking

SECTION 3 MITIGATION STRATEGY

CAPABILITIES ASSESSMENT

BLAINE COUNTY

Agency Name (Mission/Function	Programs, Plans, Policies, Regulations, Funding, ,or Practices	Effect of Loss Reduction*			Comments
		Support	Facilitate	Hinder	
Blaine County Disaster Services	Emergency Operations Plan	X			
Blaine County Disaster Services	Burned- Area Report Beaver Creek Fire	X	X		Provides Risk Assessment and Mitigation Actions
Blaine County Disaster Services	Big Wood Flood Report	X	X		Provides Risk Assessment and Mitigation Actions
Blaine County Disaster Services	Big Wood Discovery Report	X	X		Provides Risk Assessment and Mitigation Actions
Blaine County Disaster Services	Technical Assistance Report USACE	X	X		Provides Risk Assessment and Mitigation Actions
Blaine County Disaster Services	USACE Flood Report 2014	X	X		Provides Risk Assessment and Mitigation Actions
Blaine County Disaster Services	USGS Beaver Creek Fire Debris Flow Report	X	X		Provides Risk Assessment and Mitigation Actions
Blaine County Planning Zoning	Blaine County Comprehensive Plan	X			
Wood River Fire and Rescue	Fire Fighting, Emergency Medical Services	X			
Blaine County Road and Bridge	Transportation Planning	X			

CITY OF BELLEVUE

Agency Name (Mission/Function	Programs, Plans, Policies, Regulations, Funding, ,or Practices	Effect of Loss Reduction*			Comments
		Support	Facilitate	Hinder	
City of Bellevue	Comprehensive Plan	X	X		
City of Bellevue Fire Department	Fire Fighting	X			
City of Bellevue Public Works	Public Utilities, Road and Bridge Maintenance	X	X		

CITY OF CAREY

Agency Name (Mission/Function	Programs, Plans, Policies, Regulations, Funding, ,or Practices	Effect of Loss Reduction*			Comments
		Support	Facilitate	Hinder	
City of Carey	Comprehensive Plan	X	X		
Carey Rural Fire Protection District	Fire Fighting	X			
City of Carey Public Works	Public Utilities	X			

CITY OF HAILEY

Agency Name (Mission/Function	Programs, Plans, Policies, Regulations, Funding, ,or Practices	Effect of Loss Reduction*			Comments
		Support	Facilitate	Hinder	
City of Hailey	Comprehensive Plan	X	X		
City of Hailey Fire Department	Fire Fighting and Medical Response Support, Emergency Management	X	X		
City of Hailey Public Works	Public Utilities, Road, and Bridge Maintenance	X	X		

CITY OF KETCHUM

Agency Name (Mission/Function	Programs, Plans, Policies, Regulations, Funding, ,or Practices	Effect of Loss Reduction*			Comments
		Support	Facilitate	Hinder	
City of Ketchum	Comprehensive Plan	X	X		
City of Ketchum Fire Department	Fire Fighting and Medical Response	X			
City of Ketchum Public Works	Public Utilities, Road, and Bridge Maintenance	X	X		

CITY OF SUN VALLEY

Agency Name (Mission/Function	Programs, Plans, Policies, Regulations, Funding, ,or Practices	Effect of Loss Reduction*			Comments
		Support	Facilitate	Hinder	
City of Sun Valley	Comprehensive Plan	X	X		
City of Sun Valley Fire Department	Fire Fighting	X			
Sun Valley Water and Sewer District	Public Utilities	X	X		

FLOODPLAIN MANAGEMENT

NFIP Participation Category	Blaine County	City of Bellevue	City of Carey	City of Hailey	City of Ketchum	City of Sun Valley
Number of properties in the community	3700	1057	267	3594	4034	2982
Date Participating in Regular Phase of NFIP	3/16/1981	8/1/1978	3/22/2006	4/17/1978	6/15/1978	4/17/1978
Participating in CRS (class)	8	N/A	N/A	7	6	8
Date of current FIRM	11/26/2010	11/26/2010	11/26/2010	11/26/2010	11/26/2010	11/26/2010
Number of NFIP Policies	244	27	2	104	196	24
Are FIRMs digital or paper	Digital	Digital	Digital	Digital	Digital	Digital
Insurance in Force (Total Coverage)	$75,802,200	$7,423,100	$212,500	$26,746,100	$48,772,100	$8,997,600
Total Premiums	$188,343	$16,439	$2,987	$66,015	$112,045	$18,927
Number Claims Paid	1	0	0	28	30	3
$ Total Claims Paid	$140,207	$0	$0	$275,587	$144,387	$66,118
# Substantial Damage Claims	1	0	0	2	0	0
Rep Loss Properties	2	0	0	0	0	0
Severe Rep Loss Properties	0	0	0	0	0	0

Blaine County participates in the National Flood Insurance Program as well as the Cities of Sun Valley, Ketchum, Hailey, Bellevue, and Carey.

There are 244 NFIP Policies in the County, with the majority (196) being in the City of Ketchum. The City of Hailey has 104 policies, while Bellevue has 27, and Sun Valley has 24 NFIP Policies in their community. The City of Carey has only two policies. Of the total policies there have been 62 claims paid in the County, totaling $626,299.

The Blaine County Flood Plain Coordinator is the Planning and Zoning Department Administrator. Each of the incorporated communities of Bellevue, Carey, Hailey, Ketchum, and Sun Valley has designated floodplain managers/coordinators.

NFIP administration services in each community include review of building plans against city ordinances and review of surveyor submitted elevation certificates.

All of the communities listed the barriers to running an effective NFIP Program as both limited time and staff, or workload.

Blaine County has no communities within the 100 year flood plain hazard area that are not participating in the NFIP. Blaine County has no communities under suspension or revocation of participation in the NFIP[58]. The table above details the participation of jurisdictions in the NFIP. It is noted that there are 2 repetitive loss

[58] IDWR 2004

properties in the County.

All of the communities in Blaine County have Floodplain Ordinances that exceed the FEMA or State minimum requirements. The City of Bellevue's permitting process includes a FEMA elevation certificate for all structures built, or added onto in the floodplain. In the City of Hailey, floodplain development permits are included with building permit applications. Applications are reviewed by Engineering, Planning, and Building Departments. Floodplain permits are usually issued with conditions. In the City of Ketchum the permitting process includes waterways design review in new development in a floodplain, and adjacent to any waterway. The floodplain development permit is required only for development in the floodplain. In Sun Valley the floodplain is completely built out and there will be no more development allowed in the floodplain. Requests to remodel an existing structure within the floodplain would require review as part of the building permit application.

An important part of being an NFIP community is the availability of low cost flood insurance for those homes and business within designated floodplains, or in areas that are subject to flooding, but that are not designated as Special Flood Hazard Areas.

Potential reasons for continuing low participation in the NFIP are:

- Current cost of insurance is prohibitive
- A lack of knowledge about the existence of the availability of low cost flood insurance
- Home and business owners are unaware of their vulnerability to flood events

The last two reasons can be addressed through public education. The first could be addressed by all communities in the County taking advantage of the Community Rating System (CRS). The Cities of Hailey, Ketchum, and Sun Valley are participating in the CRS Program, as is Blaine County, while the communities of Bellevue and Carey do not participate. To encourage communities to go beyond the minimum requirements and further prevent and protect against flood damage, the NFIP established the CRS. To qualify for CRS, communities can do things like make building codes more rigorous, maintain drainage systems, and inform residents of flood risk. In exchange for becoming more flood ready, the CRS community's residents are offered discounted premium rates. Based on the community's CRS ratings, they can qualify for up to a 25% discount of annual flood insurance premiums. Improvement in CRS ratings could take place if the jurisdictions would require their floodplain managers to become certified.

DEVELOPMENT AND MITIGATION

The table below provides a listing of the number of building permits issued since 2009 and provides an analysis of the number of buildings that have been added to hazard areas within the jurisdiction. The addresses for each building permit were mapped using Geographical Information System (GIS) technology and juxtaposed against the hazard areas analyzed in Section 2. The increase of hazard vulnerability is quantified by the number of new structures in the hazard zone.

Jurisdiction	# Building Permits (BP)	# BP in Floodplain	# BP in WUI	# BP in Other Hazard Areas	Comments
Blaine County	62	11	47		Many of the new subdivisions in rural Blaine County are in the WUI
City of Bellevue	140	1	1		
City of Carey	7	0	0	0	
City of Hailey	99	-	-	-	
City of Ketchum	44	1	32	-	
City of Sun Valley	47	-	32	-	

Blaine County Development Impacts

LAND USE PLANNING

This section of the Blaine County Multi-Jurisdiction All Hazard Mitigation Plan examines the relationship between the County's Comprehensive Plan, Land Use or Zoning Ordinances, and the AHMP. Incorporating hazard mitigation practices into land use planning is extremely important as future developments are planned and constructed. Through proper planning, within the individual jurisdictions, risk to property owners can be reduced and future disaster related economic losses avoided. Land Use and Mitigation Planning Integration are seen as critical components of the mitigation program in Blaine County.

Blaine County

The Blaine County Comprehensive Plan was last updated in 1994. The Plan, as written, provides an excellent background on land use planning history in Blaine County and a basis for future land use decisions, including the implementation of this All Hazard Mitigation Planning effort. The Plan's hazard section does not fully cover all of the hazards discussed in this planning effort, and therefore should be updated to reflect the risk rankings and hazard severity described herein.

The Plan does an outstanding job setting policy for the management of the Floodplain hazard, the landslide and avalanche hazard, wildfire hazard, and other manmade hazards. There are a number of references to the Uniform Building Code that should be updated to reflect the adoption and use of the International Building Code. The Plan should also adopt the use of the International Building Code's Wildland Urban Interface requirements.

The Land Use Ordinances reflect the basic tenets of the Comprehensive Plan, and are aligned with the basic tenets of the AHMP effort. It is recommended again, that the International Building Code be referenced as appropriate.

City of Sun Valley

The City of Sun Valley's Comprehensive Plan was last updated in 2005. The Plan, as written, will support the implementation of the All Hazard Mitigation Planning effort. Supporting sections of the Plan include the Hillside Ordinance, the Avalanche overlay, the requirements for Wildland Urban Interface protection and related building requirements, and the floodplain. During the next revision of the Comprehensive Plan, the hazard section should be updated to reflect the hazard potential identified as part of this effort.

The Development Code also supports the implementation of the AHMP as currently written, with the addition of references to the International Building Code. The Development Code does an excellent job managing slopes and the floodplain, as well as wildfire protection.

City of Ketchum

The City of Ketchum's Comprehensive Plan was updated in March 2001. The Plan, very similar in quality and content to Sun Valley and the County, will support the implementation of the All Hazard Mitigation Planning effort. The Plan addresses most of

the hazards facing the City; however, the hazard section should be updated to reflect the hazard potential as set forth in the AHMP. The references to the Uniform Building Code should also be changed to reflect the adoption of the International Building Code.

The land use ordinances are outstanding. One item of note is the use of impact statements in the subdivision ordinance to examine new development from a safety, environmental, social, and economic impacts position. This is an excellent practice and will facilitate the implementation of some mitigation techniques.

City of Hailey

The City of Hailey's Comprehensive Plan, again is very similar in quality and content to the other Comprehensive Plans in the County. The Plan looks at hazards in a little different way. Instead of a standalone hazard section, the Plan reflects the impacts of potential hazards throughout all planning sections. There may be a need, however, to address the hazards in a more complete and comprehensive manner based on information provided as part of this planning effort. The Plan should also be updated to reflect the use of the International Building Code, and should also reflect the use of the International Building Code's Wildland Urban Interface protection requirements.

The City has Land Use Ordinances that support the implementation of the AHMP as written. The City uses both a floodplain overlay zone and a hillside overlay zone to manage growth in these two hazardous areas.

City of Bellevue

The City of Bellevue's Comprehensive Plan was updated in 2002. The Plan's hazard section is reflective of the County's Hazard Section and should be updated during the next revision. The Plan, as developed, will support the implementation of the AHMP.

The Land Use Ordinances also support implementation as written. The City has identified the hazards posed by living within the flight pattern of the Friedman Memorial Airport, but have not implemented ordinances to address that risk.

City of Carey

The City of Carey is in the process of developing a comprehensive plan and land use ordinances. Care will be taken to include those tenets of this planning effort in the development of the land use planning products.

Summary

Land Use Planning in Blaine County and the incorporated jurisdictions is well done and will be sufficient to support the implementation of the All Hazard Mitigation Planning actions. Land Use in Blaine County has, out of necessity, been forward thinking and, as currently practiced, sets standards for other resort type communities. The County and the Cities all address floodplain protection adequately and participate in the National Flood Insurance Program. Additionally, there is good public policy regarding protection of the mountain slopes, and building is not allowed on slopes that exceed 25% county wide, which leads to protection from landslides and avalanches. The County and incorporated jurisdictions should update land use planning documents to ensure alignment with the hazard rankings and risk assessments completed herein.

MITIGATION ACTIONS

The Blaine County Mitigation Strategy has been strengthened the past several years through technical support that has been provided by the US Army Corp of Engineers (USACE), the Federal Emergency Management Agency (FEMA), and the US Forest Service (USFS). Blaine County has received hazard analysis reports focusing on mitigation of the effects from wildfire and flooding. Additionally FEMA is working to review and redefine flood hazard zones in the County and the Cities. The technical assistance has been invaluable in defining mitigation technics which lessen the hazards that have been identified in this Plan.

The following federal technical assistance reports were reviewed by the Committee with a goal of adding appropriate mitigation actions to the Plan. Some of the actions proposed have been completed, some added as future mitigation actions, and others are still under consideration by the Committee for inclusion.

- Technical Assistance Report Concerning Post Wildfire Flood Potential in Blaine County
- Burned-Area Report – Beaver Creek Fire Sawtooth National Forest Ketchum and Fairfield Ranger Districts, Blaine and Camas Counties, Idaho
- Discovery Report, Big Wood River Watershed, Idaho
- Flood Risk Report – Fore the Big Wood Watershed
- Post-Fire Debris-Flow Hazard Assessment of the Area Burned by the 2013 Beaver Creek Fire near Hailey, Central Idaho
- Alluvial Fan Mapping and Risk Assessment for the Big Wood River Valley

Heatherlands gets Firewise status

Homeowners completed fuels-reduction project – January1, 2015

Heatherlands subdivision, midway between Hailey and Ketchum, has completed requirements to become an official Firewise Community.

The subdivision experienced a close call with the Beaver Creek Fire in August 2013.

According to a press release from Mid-Snake Resource, Conservation & Development, an agency of the U.S. Department of Agriculture, the process started this summer when homeowners contacted it and the Ketchum Rural Fire District. Together with the BLM's Twin Falls District, they completed a fuels reduction project of about 40 acres by hand-seeding a native seed mixture and masticating heavy fuels threaded throughout the community.

This spring, Heatherlands will hold an official Firewise Day. The annual Firewise Day event is one of the requirements of becoming and maintaining a recognized Firewise Community.

"Every resident of a wildland community or area ought to know exactly how and why his or her home could burn in a wildfire," the press release states. "And even more important, they need to know how the little things that they do can make big differences in preventing home loss and community disaster."

The Heatherlands Firewise Day will consist of homeowners' receiving an assessment that will give them steps that they can take to protect their home ignition zone from wildland fire. They will also receive fire-resistant plants grown by local high school students.

According to the press release, homeowners will be encouraged to plan events annually to continue to protect their community from catastrophic wild fire and maintain Firewise Communities/USA status.

People who would like to learn more about bringing Firewise into their community can contact their local fire departent or visit.

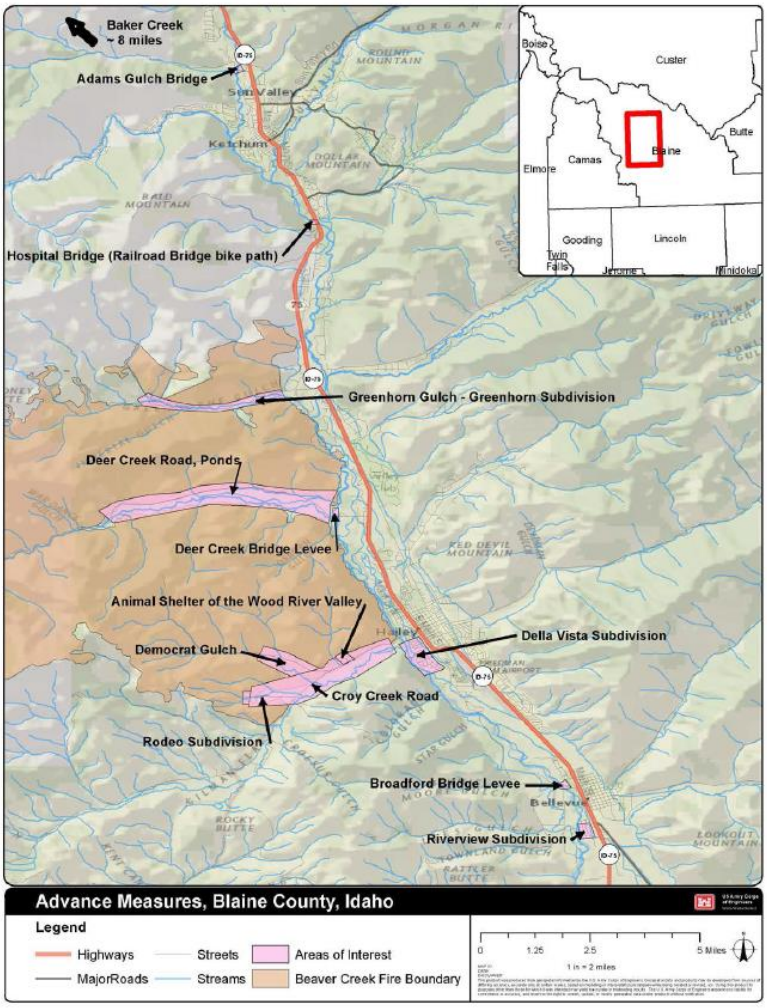
Email the writer: gmoore@mtexpress.com

TECHNICAL ASSISTANCE REPORT CONCERNING POST-WILDFIRE FLOOD POTENTIAL IN BLAINE COUNTY, IDAHO

General recommendations for the County to prepare for winter and spring flooding and debris flows:

1. Aerial seeding on steep burnt slopes this fall may be helpful in starting the reestablishment of grasses and scrub to the slopes. Getting vegetation established will be key in minimizing risks from erosion and debris flows.
2. Clean borrow ditches and culverts. Having capacity in both will reduce damage to roads from flood and debris flows.
3. Identify riprap sources. In areas where emergency repairs or armoring may be necessary on short notice, having a ready source of riprap rock will be useful.
4. Monitor and inspect culvert crossings through roads for plugging of the culverts after precipitation events. Clearing culverts after even minor flows will maintain capacity for the larger flows, which may reduce impact to roads.

5. Use Best Management Practices (BMP's) for erosion control.
6. Identify and prioritize areas where flooding has occurred in the past. These locations are at a higher risk of flooding over the next couple of years and are likely places where flood fights or emergency flood protection may be necessary, depending on snowpack conditions. Note that there are limited flooding concerns due to debris flows; the primary concern should be increased runoff (from rain and snowmelt) into streams. Develop response plans for those locations. Advise individuals in the identified areas of the potential hazards, their possible impacts and recommend that they make their own preparations as they see necessary.
7. Monitor snow, weather, and river conditions for potential incidents involving flooding.



8. Investigate the installation of remotely monitored emergency precipitation gages in sub-basins above priority areas, in order to quickly identify localized flooding, and alert impacted populations.
9. Identify and respond quickly to localized floods and debris flows, within the set priorities.
10. Have equipment and materials prepared to respond quickly to significant incidents.[59]

BURNED AREA REPORT – BEAVER CREEK FIRE

- Mitigate, to the extent possible, threats to personal injury or human life of forest visitors, permit holders and Forest Service employees at administrative and

[59] Technical Assistance Report concerning flood potential in Blaine County, Idaho, USACE, March 13, 2014

recreation facilities or while traveling select roads and trails on NFS lands within or downstream of the burned area.

- Mitigate potential post-fire impacts to water quality from mine or CERCLA sites within or downstream of the burned area.
- Warn users of Forest roads and trails of hazards present in the burned area. Consider temporary closure to protect public users of NF lands.
- Protect or mitigate potential post-fire impacts to critical natural resources and significant cultural resources within or downstream from the burned area.
- Protect or minimize damage to high-value NFS investments within the burned area. Minimize damage to key NFS travel routes within and downstream the fire boundary.
- Treat invasive plants that are a threat to naturalized ecosystems by minimizing the expansion of existing populations in the burned area and control of expected invasion of noxious weeds within and adjacent to the area where soils/vegetation was disturbed as a result of fire suppression activities.
- Assist cooperators with the interpretation of the assessment findings to identify potential post-fire impacts to communities and residences, domestic water supplies, public utilities (including power transmission facilities, cellular towers, roads, and other infrastructure). [60]

[60]Beaver Creek BAER-FS-2500-8

BIG WOOD WATERSHED FLOOD RISK REPORT – USACE

The goal of this report is to help inform and enable communities and Tribes to take action to reduce flood risk. State, local, and Tribal officials can use the summary information provided in this report, in conjunction with the data in the Flood Risk Database, to:

- **Update local hazard mitigation plans and community comprehensive plans** – Planners can use flood risk information in the development and/or update of hazard mitigation plans, comprehensive plans, future land use maps, and zoning regulations. For example, zoning codes may be changed to better provide for appropriate land uses in high hazard areas.
- **Update emergency operations and response plans** – Emergency managers can identify low risk areas for potential evacuation and sheltering, and can assist first responders in avoidance of areas of high depth flood water. Risk assessment results information may show vulnerable areas, facilities and infrastructure for which planning for continuity of operations plans (COOP), continuity of government (COG) plans, and emergency operations plans (EOP) would be essential.
- **Communicate flood risk** – Local officials can use the information in this report to communicate with property owners, business owners, and other citizens about flood risks and what can be done about it.
- **Inform the modification of development standards** – Floodplain managers, planners, and public works officials can use information in this report to support the adjustment of development standards for certain locations. For example, heavily developed areas tend to increase floodwater runoff because paved surfaces cannot absorb water, indicating a need to adopt or revise standards that provide for appropriate stormwater retention.

BIG WOOD RIVER WATERSHED DISCOVERY REPORT, JULY 2011

Several potential desired mitigation projects were identified by the communities during the Discovery Meeting, including:

Big Wood River Levee – Non-Regulatory Risk Map Products desired for the Big Wood River split location to illustrate several different flow scenarios for the main channel and the overflow channel

Bellevue Canal – bank stabilization at a meander on the Big Wood River to protect the canal

Hwy 75 Bridge – slow water flow and prevent the Big Wood River's flow split to Cottonwood Slough which increases flooding on Little Wood River

Eagle Creek– undersized culvert increases flood hazard on Eagle Creek at Highway 75

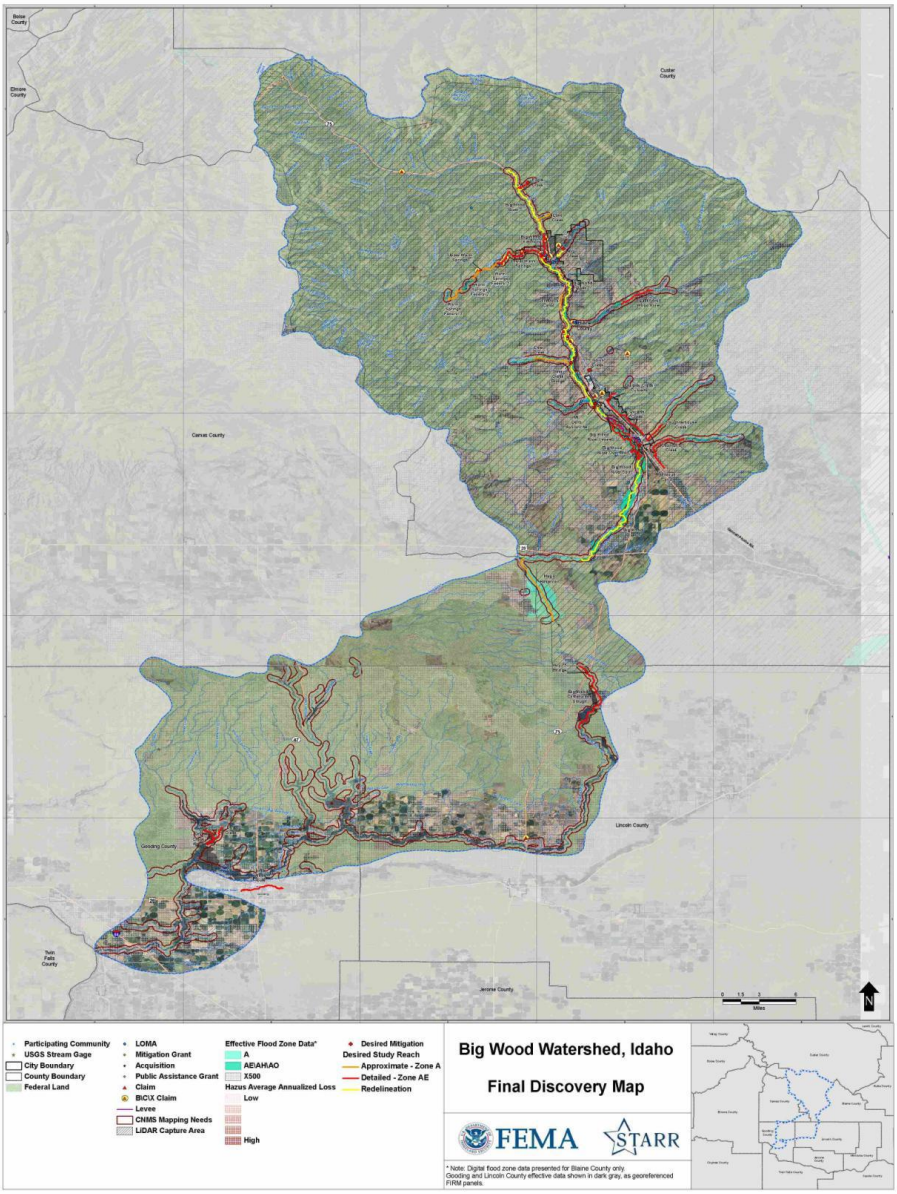
Trail Creek - Sun Valley interested in a dam breach analysis for the Trail Creek Dam

Deer Creek Bridge – Continued bank stabilization where eroded during 2006 flood

Indian Creek - diverting Indian Creek from its confluence with the Hiawatha Canal directly to the Big Wood River

Quigley Creek Culverts - clean the culverts and channel, restoring dilapidated banks, and installing wing walls on culverts to improve flood flow thru this channel

Mt. Della Avalanche - avalanche caused flooding in the Big Wood River, mitigation study may be appropriate[61]



[61] Flood Risk Report for the Big Wood Watershed, Federal Emergency Management Agency, Draft April 12, 2012

POST-FIRE DEBRIS-FLOW HAZARD ASSESSMENT

Area Burned by the 2013 Beaver Creek Fire near Hailey, Central Idaho

The maps in this report may be used to prioritize areas where emergency erosion mitigation or other protective measures may be needed prior to rainstorms within these drainage basins, their outlets, or areas downstream of these drainage basins within the 2- to 3-year period of vulnerability following the Beaver Creek Fire. This assessment evaluates only post-fire debris flows and does not consider hazards associated with flash floods; such hazards may remain for many years after a fire.

The probability of debris flow occurrence is highest in the eastern part of the Willow Creek watershed, the southern part of the Greenhorn Creek watershed, most of the Deer Creek watershed, the Democrat Gulch subwatershed, and a couple drainages in the Baker Creek watershed. Probabilities of debris flow occurrence were low for most of the Warm Springs Creek watershed except for a basin in the Thompson Creek subwatershed.

The probability of debris-flow occurrence increased with each increase in storm intensity with the highest probability at 78 percent for a basin in Willow Creek watershed. It is important to consider the stream segment probabilities as well because the basin probability value is derived from the basin outlet. Many basins have lower, or more importantly, higher probability values for stream segments within a basin compared to the outlet. These are areas within a basin where a debris flow might occur, even though not likely at the outlet. Like the probability of debris-flow occurrence, the volume estimates increase with the increase in storm intensity, however, at a reduced rate. Estimates of debris-flow volume were highest in two basins in the Willow Creek watershed, the headwaters basin in the Baker Creek watershed, and the Thompson Creek subwatershed in the Warm Springs Creek watershed. These basins are not coincident with the high probability basins.

Unlike the probability stream segment analysis, the volume estimates for stream segments does not vary much within a basin. The volume estimates tend to increase in a downstream direction.[62]

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[62] Post-Fire Debris-Flow Hazard Assessment of the Area Burned by the 2013 Beaver Creek Fire near Hailey, Central Idaho, Open-File Report, 2013-1273

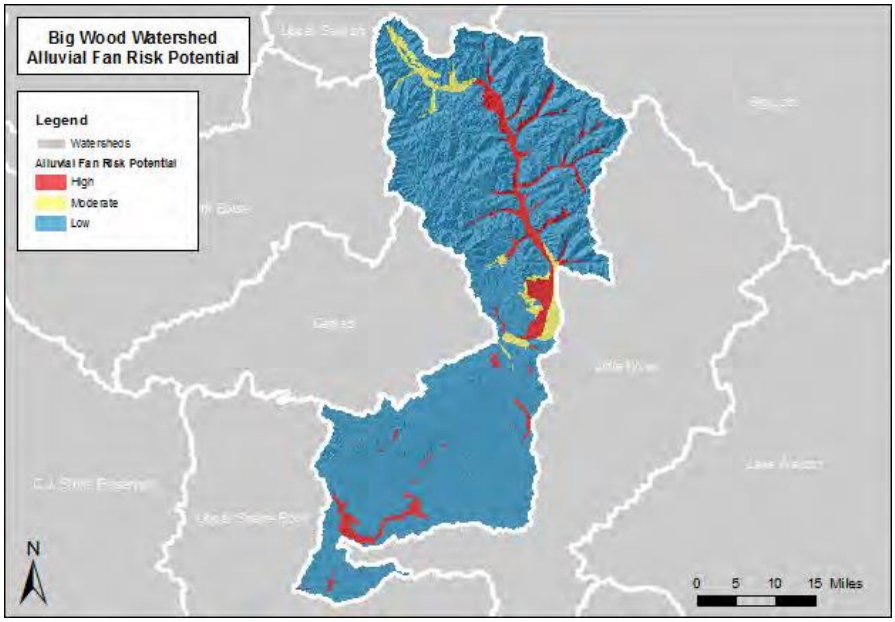
ALLUVIAL FAN MAPPING AND RISK ASSESSMENT FOR THE BIG WOOD RIVER VALLEY

The Alluvial Fan Mapping Project Report for the five funded watersheds—Big Wood, Lower Boise, Payette, Teton, and Upper Spokane—was designed to map alluvial fans from existing data sources, such as geologic maps and flood insurance rate maps as specified in the Alluvial Fan Mapping CTP (Cooperating Technical Partners) Project Proposal (Idaho Department of Water Resources [IDWR] 2012). Further work on this project includes techniques for identifying potential alluvial fans from existing data sources, such as slope models and geologic data.

Mapping Idaho alluvial fans develops quality risk assessment data, increases risk awareness, enables additional mitigation actions at the local level, and validates existing flood studies while informing future flood studies.

Known alluvial fans were mapped from available sources per the mapping guidelines. These sources enhanced Flood Insurance Rate Maps (FIRMs), Digital Flood Insurance Rate Maps (DFIRMs) and Surficial Geologic Maps. The AO zones on FIRMs and DFIRMs indicate the presence of alluvial fans, as do alluvial soil types.

Due to the lack of reliable geologic information in some watersheds, alluvial fan risk potential was analyzed to provide a starting point from which to analyze this risk, thereby reducing the workload for field analysis of alluvial fan extent. This methodology was adapted from the 2012 publication of Lancaster et al. An alluvial fan risk overlay was categorized by high, moderate, and low hazard, based on the age of geologic deposits (USGS, 2005). [63]



63 http://www.bhs.idaho.gov/Pages/Plans/RiskMap/Risk%20MAP%20Alluvial%20Fan%20Risk%20Assessment/Idaho%20Alluvial%20Fan%20Mapping%20and%20Risk%20Assessment.pdf

DEFINING MITIGATION ACTIONS - STAPLEE

The Blaine County Mitigation Committee/LEPC chose to be proactive in defining mitigation actions which could be added to this Plan. The Committee organized a special subcommittee comprised of representatives of each of the participating jurisdictions to: 1) review the uncompleted actions from the 2009 Plan, 2) review the reports discussed above to determine actions that should be added, and 3) analyze project alternatives defined to implement the actions chosen from the report.

The subcommittee chose to use the STAPLEE Method, suggested by FEMA's Mitigation Planning How to Guides to complete the analysis process. The members of the subcommittee represented those departments who understand a wide range of the issues, i.e., social, technical, political, economic, etc. and score the alternatives using a weighted, (as suggested in the how to guide) STAPLEE Criteria. The Criteria is presented below.

STAPLEE Criteria	**S** (Social)	**T** (Technical)	**A** (Administrative)	**P** (Political)	**L** (Legal)	**E** (Economic)	**E** (Environmental)
Considerations → for Alternative Actions ↓	• Community Acceptance • Effect on Segment of Population	• Technical Feasibility • Long-term Solution • Secondary Impacts	• Staffing • Funding Allocated • Maintenance/ Operations	• Political Support • Local Champion • Public Support	• State Authority • Existing Local Authority • Potential Legal Challenge	• Benefit of Action • Cost of Action • Contributes to Economic Goals • Outside Funding Required	• Effect on Land/ Water • Effect on Endangered Species • Effect on HAZMAT/ Waste Sites • Consistent with Community Environmental Goals • Consistent with Federal Laws
Weighted Score	1X	2.5X	1.5X	1X	1X	2X	1.5X
STAPLEE Criteria	**S** (Social)	**T** (Technical)	**A** (Administrative)	**P** (Political)	**L** (Legal)	**E** (Economic)	**E** (Environmental)

On November 20, 2014 the subcommittee met and began analyzing mitigation action alternatives using the STAPLEE method. Following the subcommittee's analysis and selection of new projects the LEPC then gave each a ranking of High (H), Medium (M), or Low (L) to each project.

The members of the subcommittee are listed below.

Agency	Representative	Position
Blaine County Road and Bridge	Tom Duffy	Manager
City of Ketchum	Robyn Mattison	Public Works / CE
City of Hailey	Kristine Hilt	CFM
City of Hailey	Heather Dawson	City Administratir
Blaine County Commissioner	Angenie McCleary	Commissioner
City of Ketchum	Rebecca Bundy	St. Planner
Blaine County	Chris Corwin	GIS

Additional participation was provided in the process by the following electronically:

Agency	Representative	Position
City of Sun Valley	Mark Hoffman	Community Development Director
City of Sun Valley	Walt Flemling	Chief of Police
City of Bellevue	Craig Eccles	Administrator
City of Carey	Brandi Hennefer	Planning and Zoning
Blaine County	Bill Dyer	Building Official

GOALS

AHMP Goals describe the broad direction that Blaine County and Incorporated City agencies, organizations, and citizens will take to select mitigating projects which are designed specifically to address risks posed by natural and manmade hazards. The goals, specific to each hazard category, are stepping-stones between the mission statement and the specific objectives developed for the individual mitigation projects.

BLAINE COUNTY

Severe Weather

- Blaine County will develop methods to mitigate the losses due to severe weather in the County.

Drought

- Evaluate potential for supply augmentation, primarily from expansion of groundwater supplies.
- Evaluate demand reduction measures

Flooding

- Blaine County will continue to participate in the National Flood Insurance Program and develop actions that will reduce the damage to County infrastructure due to flash and stream flooding.

Geological

- Blaine County will reduce potential damage to County infrastructure and structures through implementation of earthquake mitigation techniques.
- Blaine County will reduce the potential damage to property from Landslides and Avalanches by adopting codes and standards for construction in landslide prone areas.

Wildfire

- Blaine County will reduce the losses caused by wildfire by continuing the Wildland Urban Interface Mitigation Program.

Biological

- Blaine County will identify risks to livestock from potential biological threats.

Structural Fire

- Blaine County will seek to reduce losses from Structure fires through working with private property owners.

Terrorism

- Blaine County will identify measures to protect critical County infrastructure, facilities, and digital systems from potential terror incidents.

PARTICIPATING JURISDICTIONS' GOALS

CITY OF BELLEVUE

Severe Weather

- Reduce the impact of long periods of extended cold, due to power outages, or interruption of other heating fuels.
- Reduce impacts from winter storms.

Drought

- The City will examine ways to mitigate drought.

Flooding

- The City of Bellevue will continue to participate in the National Flood Insurance Program.
- Reduce Impacts from flooding to the City of Bellevue and prevent loss or failure of the only irrigation source (District 45 Canal) to the south county.

Geological

- Reduce the potential damage to City infrastructure and buildings in the event of a large earthquake

Wildfire

- Reduce the losses of life and property caused by Wildfire.

Terrorism

- The City will identify measures to protect critical City infrastructure, facilities, and digital systems from potential terror incidents.

CITY OF CAREY

Severe Weather

- Reduce the impact of long periods of extended cold, due to power outages, or interruption of other heating fuels.
- Reduce impacts from winter storms.

Drought

- The City will examine ways to mitigate drought.

Flood

- The City of Carey will continue to participate in the National Flood Insurance Program and develop actions that will reduce the damage to City property and infrastructure due to flooding.
- The City of Carey will protect citizens from losses due to flash flooding.

Geological

- The City of Carey will reduce potential damage to City infrastructure and structures through implementation of earthquake mitigation techniques.

Terrorism

- The City will identify measures to protect critical City infrastructure, facilities, and digital systems from potential terror incidents.

CITY OF HAILEY

Severe Weather

Extreme Cold

- Reduce the impact of long periods of extended cold, due to power outages, or interruption of other heating fuels.

Winter Storms

- Reduce impacts from winter storms.

Drought

- The City will examine ways to mitigate drought.

Flooding

- Reduce impacts from flooding city-wide, and prevent structures from being constructed in flood prone areas.
- Continue to participate in the NFIP.

Geological

Earthquake

- Reduce potential damage to city infrastructure and structures.

Avalanche/Landslides

- Reduce the potential of deaths or injury by prohibiting construction of structures on “Red Zone” areas and limiting development in “Blue Zone” avalanche areas.
- Increased awareness of avalanche/landslide areas through informational programs and signage is recommended.

Wildfire

- Reduce the losses caused by wildfires, and their impact on persons affected by them.

Terrorism

- The City will identify measures to protect critical City infrastructure, facilities, and digital systems from potential terror incidents.

CITY OF KETCHUM

Flood

- The City of Ketchum will work for increased flood protection of and minimization of flood damage to structures and infrastructure in the City limits.

Earthquake

- The City of Ketchum will reduce potential damage to City infrastructure and structures through implementation of earthquake mitigation techniques.
- The City of Ketchum will reduce the risk of damage to essential City services.

Drought

- The City of Ketchum will protect the Valley's aquifer and our water supply.

Snow Avalanches

- The City of Ketchum will reduce potential death and /or, injuries to the public as well as protect city infrastructure through public warning systems and increased public awareness of avalanche potentials.

Lightning

- The City of Ketchum will protect its buildings and infrastructure from damage by lightning.

Power Outages

- The City of Ketchum will provide auxiliary power and fuel source for City services in case of power outage.

Terrorism

- The City of Ketchum will increase the security of City infrastructure.

Structure Fire

- The City of Ketchum will ensure that water system capacity meets fire demands

Widfire

- The City of Ketchum will reduce risk to lives and properties from wildfires.

Cyber-Terrorism

- The City of Ketchum will reduce the potential for external non- authorized access to protected information and systems.

Hazardous Materials

- The City of Ketchum will identify and increase awareness of potential hazardous material transport and storage locations in the city

General Hazards

- The City of Ketchum will ensure that its networks and communications systems are fully functional in the event of an emergency.

CITY OF SUN VALLEY

Severe Weather

Power Outages

- To provide for a secondary power line from the substation to the south, to assure we can provide for our guests and residents alike in the event of a long term power outage.

Winter Storm

- Reduce impacts from large winter storms.

Extreme Cold

- Reduce the impact of long periods of extended cold, due to power outages, or interruption of any other heating sources.

Drought

- The City will examine ways to mitigate drought.

Flooding

- Reduce impact from flooding in the city of Sun Valley and prevent a collapse of the Sun Valley Lake Dam.
- Continue to participate in the NFIP.

Geological

Earthquake

- Reduce the potential damage to city infrastructure and buildings in the event of a large earthquake.

Wildfire

- Reduce losses of life and property caused by wildfires.

Hazardous Materials

- Be able to deal with and contain a leak or spill from the Ice Rink Anhydrous Ammonia plant, and to warn all occupants of the resort and the cities of Ketchum and Sun Valley.

Terrorism

- The City will identify measures to protect critical City infrastructure, facilities, and digital systems from potential terror incidents.

MITIGATION ACTIONS

There were 132 projects identified in the 2009 Blaine County Multi-Jurisdiction All Hazard Mitigation Plan. There were 65 Projects completed for a completion percentage of 49%. The remaining uncompleted projects were moved forward to the 2014 Mitigation Project Listing. The total moved forward plus those added totaled 127 projects of which 60 are new.

BLAINE COUNTY

Severe Weather

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will develop methods to mitigate the losses due to severe weather in the County.	Improve the Safety of County Roads and Bridges	Install temporary Windbreaks in areas where blowing snow occurs along Highway 75 between Bellevue and Sun Valley.	ITD	ROM - $50,000 2016 –Identify Funding 2017 – Install Fencing (Not included in Ranking)
		Install Seasonal Road Signage	Road and Bridge	2015-ROM -$30000

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will continue to participate in the National Flood Insurance Program and develop actions that will reduce the damage to County infrastructure due to flash and stream flooding.	Maintain the NFIP Requirements	Maintain CRS Status for the County	Floodplain Administrator	No Cost
		Complete Floodplain Manager Certification Program	Floodplain Administrator	No Cost

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
		Construct Injection Capability for floodwaters on Big Wood River	Flood District	ROM - $500,000 2016 – Engineer Solution
		Conduct a study for recharge in flood prone areas	Recharge District	ROM - $50,000
(Not included in Ranking)		Install Culverts to protect roadways along HWY 26 in the Carey Area	State of Idaho ITD	ROM – 150,000 20015 – Place on Future Schedule 2016 – Seek Funding
	Improve Drainage System	Continue Culvert and Bridge Maintenance/ Placement and Gravel Road Upgrade Program	Blaine County	ROM-$450,000/Yr for Crushed Rock ROM-$60,000/Yr for Culverts and Culvert Cleaning ROM-$80,000/Yr for Tree Removal and Ditch Work ROM-$450,000 For Replacement of Muldon Creek Bridge, Upper High 5 Bridge and Colorado Gulch Bridge provide federal grant for Adams Gulch and W. Glendale Bridge Replacement ROM-$40000/YR For Engineering Bridge Designs 2015-2030 ROM=$700000 Per Year to Continue 100 Mile Gravel Road Upgrade Program to improve road drainage and prevent road damage/road closures from flooding through culverts, dry wells, ditches proper crow and road materials ROM-$3000 per year to update record of bridges and culverts on county roads

Goal	***Objective***	***Project***	***Responsible Entity***	***Order of Magnitude Cost & Planning Horizon***
	Provide Big Wood River Flood Fight Capability	Stockpile Temporary flood fight materials at the W. Glendale BCRB Shop	Blaine County R&B	ROM-$200,000 For 3000 Tons of Rip, 200 Concrete Blocks, and 3000 Tons of Pit Run Stockpiled BCRB . ROM-$500000 For an on Call Contractor Rock Crushing and Haul to Flood Fight Locations.
	Big Wood River Flood Mitigation Broadford RD	Bank Armor Upstream west bank Bellevue Bridge Broadford Road.	Blaine County R&B	ROM-$50,000 Design Permitting ROM-$300,000 Materials and Rental Equipment *Schedule - TBD*
	Big Wood River Flood Mitigation for Hospital Bridge	Bank Armor Upstream Southwest Bank BCRD RR Bridge Hospital Drive	Blaine County R&B	ROM-$50,000 Design Permitting ROM-$300,000 Materials and Rental Equipment *Schedule - TBD*
	Big Wood River Flood Mitigation of Deer Creek Road	Bank Armor Upstream East Bank BCRB Bridge Deer Creek	Blaine County R&B	ROM-$50,000Design and Permitting ROM-$300,000 Materials and Rental Equipment *Schedule – TBD*
	Flood Warnings Along County Roads	Purchase Road Closed, Smoke Over Road, and Water over Road Signs	Blaine County R&B	ROM- $300,00 FOR Signs and barricades *Schedule - TBD*
	County Road Drainage to Prevent Sheet Flooding from Spring Runoff.	Enforcement of rights of way in order to allow drainage work.	Blaine County R&B	ROM-$100,000 per year per right of way surveys and legal action to remove right of way encroachments violations from local property owners and utilities

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will reduce potential damage to County infrastructure and structures through implementation of earthquake mitigation techniques.	Priority should be given to schools, public buildings, community evacuation and assessable sites.	Earthquake Protection or Hardening County facilities	County Operations	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs
		Develop a listing of schools and public buildings that need to be seismically retrofitted	District Building Official	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs

Wildfire

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will reduce the losses caused by wildfire by continuing the Wildland Urban Interface Mitigation Program.	Improve Protection through the proper use of Ordinances and Codes	Develop a Wildland Fire Ordinance which establishes the road widths, access, water supply, and building regulations suitable to ensure new structures can be protected.	P & Z Administrator/Fire Districts	
		Designate the WUI areas as a special land use category in the County Comprehensive Plan	P & Z Administrator	
	Improve access to areas prone to Wildland Fire	Develop a listing of roads, bridges, cattle guards, culverts, and other limiting conditions and incorporate improvements into the County Transportation Plan	Fire District/Road and Bridge	Road and Bridge Inspection Records in IWORQ Data base complement culvert and cattle guard inspection and record estimate completion date is 2016.

Goal	***Objective***	***Project***	***Responsible Entity***	***Order of Magnitude Cost & Planning Horizon***
	Conduct Roadside Vegetation Treatments to reduce flammable fuels immediately adjacent to roads in high risk areas.	Develop a standard practice for roadside vegetation management.	Fire District	ROM – No Cost – Work with Road and Bridge to develop policy
Blaine County will reduce fuels in the Wildland Urban Interface	Implement a countywide fuels reduction program	Smiley Creek Fuel Reduction 10 Acres	Smiley Creek Fire Protection District	Ongoing – Firewise Program
		Heatherland Firewise Communities Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	Wood River Fire and Rescue/Ketchum Rural Fire Department	Ongoing – Firewise Program
		West of Little Wood Reservoir Road Fuel Reduction 350 Acres	Carey Fire Protection District	Ongoing – Firewise Program
		Scott Road Fuel Reduction Project 33 Acres	Carey Fire Protection District	Ongoing – Firewise Program
		Fuel Reduction – North of Carey between Austin, Little Wood Reservoir, and Barton Roads. 175 Acres	Carey Fire Protection District	Ongoing – Firewise Program
		Fuel Reduction – Little Wood Reservoir road, South of the Reservoir 1,000 Acres	Carey Fire Protection District	Ongoing – Firewise Program

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
		Fuel Reduction – Near Gannett and along Punkin Center Road 150 Acres	Carey Fire Protection District	Ongoing – Firewise Program
		Fuel Reduction – Near Picabo and along Picabo Desert Road 125 Acres	Carey Fire Protection District	Ongoing – Firewise Program
		Fuel Reduction in the West Magic Area 5 Acres	West Magic Fire Protection District	Ongoing – Firewise Program
		Fuel Reduction – Beaver Creek and Sawtooth City Vicinity and North to County Line	Smiley Creek Fire District / County Building Official	Ongoing – Firewise Program
		Greenhorn Hillside Firewise Communities Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	Wood River Fire and Rescue and Ketchum Rural Fire Department	Ongoing – Firewise Program
		East Magic, Isolated Tracks Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting.	Wood River Fire and Rescue	Ongoing – Firewise Program
		Eagle Creek Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	Ketchum Rural Fire Department	Ongoing – Firewise Program

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
	Update and Improve Road Signing and Rural Addressing	Install Road Signs as prescribed by NFPA Standards	Road and Bridge	ROM - $50,000 2015 – Seek BLM or LTHAC Grant to purchase signs. 2016 – Install Signs

Biological

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will seek to reduce the exposure of humans and animals to the West Nile Virus.	Identify risks to livestock from potential biological threats	Develop a plan & methodology to protect livestock from biological threats	Health District	ROM - $10,000 2016 – Develop Plan

Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will identify measures to protect critical County infrastructure, facilities, and digital systems from potential terror incidents. .	Identify and protect potential terrorism targets.	Conduct a County Terrorism assessment on all infrastructure, facilities, and digital systems.	All County Departments	ROM – Unknown 2015 – Develop Process (THIRA) 2016 – Begin to Conduct Assessments

CITY OF BELLEVUE

Severe Weather

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the impact of long periods of extended cold, due to power outages, or interruption of other heating fuels.	Reduce impacts from winter storms	Survey Critical Infrastructure to determine its snow load capacity. This project could conceivably be combined with the earthquake seismic assessment	City Engineer	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs
	Communicate Drought Information	Develop Communications Channel (Social Media) for City Residents that can be used for emergency preparedness and updates	Mayor / City Council	ROM – No Cost 2015 – Coordinate with Blaine County LEPC
	Drought Preparedness	Update City Water System	Mayor/City Council	***In Process***

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Bellevue will continue to participate in the National Flood Insurance Program.	Maintain the NFIP Requirements	Seek CRS Status for the City	Floodplain Administrator	No Cost 2016 – Seek CRS Status
		Complete Floodplain Manager Certification Program	Floodplain Administrator	No Cost 2015 – Complete Certification

Wildfire

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the losses of life and property caused by Wildfire.	Improve Wildland Urban Interface Planning	Fuel Reduction Projects on Wildland Urban Interface areas within and surrounding the City of Bellevue	Fire Department	Ongoing – Firewise Program
		Develop a GIS Based Fuel Model that can be used in Fire Response	Fire Department	ROM – $25,000 2016 – Work with WUI Committee to develop joint project
		Bellevue 6th and 7th St. Hillside. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	Bellevue Fire Department	Ongoing – Firewise Program

Biological – *Pandemic Flu*

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Be prepared to adequately respond to citizen's long-term needs during an extended outbreak of disease.	Improve Pandemic Preparedness	Store necessary health care supplies for citizens and guests of Bellevue, in a home care situation.	SCPHD	ROM – Unknown 2015 – Determine Need 2016 – Set Policy and Seek Funding 2017- Purchase Supplies

Other

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Develop a viable Continuity of Government Plan	Improve Disaster Response	Develop a comprehensive Continuity of Government plan	Mayor / City Council	ROM - $2500 2015 – Develop COOP

CITY OF CAREY

Severe Weather

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City will examine ways to mitigate drought.	Reduce impacts from drought conditions	Develop a gravity feed water supply system for the City	Mayor & Council	

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Carey will continue to participate in the National Flood Insurance Program and develop actions that will reduce the damage to City property and infrastructure due to flooding.	Maintain the NFIP Requirements	Seek CRS Status for the City	Floodplain Administrator	No Cost 2016 – Seek CRS Status
		Complete Floodplain Manager Certification Program	Floodplain Administrator	No Cost 2015 – Complete Certification

Wildfire

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the losses caused by wildfires, and their impact on persons affected by them.	Improve Wildland Urban Interface Planning	Develop a GIS Based Fuel Model that can be used in Fire Response	Carey Fire District	ROM – $25,000 2016 – Work with WUI Committee to develop joint project

Other

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Protect City Utility Systems	Protect Systems from Unauthorized Access	Install Locked Fencing Around City Utility Systems	Mayor and Council	ROM – $5,000 2016 – Install Fencing

CITY OF HAILEY

Severe Weather

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the impact of long periods of extended cold, due to power outages, or interruption of other heating fuels.	Emergency Sheltering	Identify a community shelter and develop an MOU with the owner for use during an emergency.	Mayor & City Council	ROM – No Cost 2015 – Identify Shelter and Sign MOU
Reduce impacts from winter storms.		Survey Critical Infrastructure to determine its snow load capacity. This project could conceivably be combined with the earthquake seismic assessment.	City Engineer	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs
	Protect from Effects of Unscheduled Outages	Purchase a mobile generator to assist in water supply demands during a power outage	Public Works	ROM – 10,000 2016 – Seek Funding 2017 – Install Generator
	Drought Planning	Address cross-contamination and backflow in the clean drinking water for the City of Hailey	Public Works	ROM - $25,000 2016 – Engineer Solution

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Continue to participate in the National Flood Insurance Program	Protect Property from Flooding	Install Culvert in south end of Quigley Drainage	Public Works	ROM – 2500 2015 – Replace Culverts
		Assess Della View area drainage	Floodplain Administrator	ROM $5000 2015 – Conduct Assessment

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce potential damage to city infrastructure and structures.	Protect Infrastructure	Perform a Structural Engineering Survey to identify City and public buildings that need to be seismically retrofitted.	City Engineer	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs
		Seismically retrofit critical buildings and infrastructure.	City Engineer	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs

Avalanche/Landslide

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the potential of deaths or injury by prohibiting construction of structures on “Red Zone” areas and limiting development in “Blue Zone” avalanche areas.	Avalanche/Landslide Protection	Perform a landslide identification study	City Engineer	ROM – $15,000 2015 – Secure Funding 2016 – Conduct Study

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
		Develop a public awareness campaign to increase the awareness of avalanche/landslide areas through informational programs and signage.	Mayor / City Council	No Cost 2015 – Provide Education Materials on the Blaine County LEPC Website

Wildfire

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the losses caused by wildfires, and their impact on persons affected by them.	Improve Wildland Urban Interface Planning	Develop a GIS Based Fuel Model that can be used in Fire Response	Fire Department	ROM – $25,000 2016 – Work with WUI Committee to develop joint project
		Bigwood River, West Hailey Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	Hailey City Fire Department	Ongoing – Firewise Program

Biological – *Pandemic Flu*

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Be prepared to adequately respond to citizen's long-term needs during an extended outbreak of disease or famine.	Improve Pandemic Preparedness	Store necessary health care supplies for citizens and guests of Hailey, in a home care situation.	SCPHD	ROM – Unknown 2015 – Determine Need 2016 – Set Policy and Seek Funding 2017- Purchase Supplies

Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the impact of terrorism or vandalism	Protect Community Infrastructure	Develop methods to secure critical infrastructure.	Public Works	ROM – Unknown 2015 – Develop Process (THIRA) 2016 – Begin to Conduct Assessments

Other

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Develop a viable Continuity of Government Plan	Improve Disaster Response	Develop a comprehensive Continuity of Government plan	Mayor / City Council	ROM - $5000 2016– Include as a SHSP Planning Activity
		Construct Fuel Storage at the Street Department Shop	Public Works	ROM - $15,000 2016- Identify Funding 2017 – Construct Storage

CITY OF KETCHUM

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will work for increased flood protection of and minimization of flood damage to structures and infrastructure in the City limits.	Reduce flood insurance claims and damage.	Revise floodplain ordinance to comply with FEMA NFIP requirements.	Floodplain Administrator	Done Summer 2014
		Continue to refine floodplain ordinance for effectiveness and compliance.	Floodplain Administrator	On-going
		Continue to participate in the NFIP.	Floodplain Administrator	On-going
		Lidar mapping of the Bigwood River in Ketchum.	Risk Mapping Team	Under-way
		Investigate report of new bridges in Bigwood Watershed Flood Risk Report.	Floodplain Administrator	ROM- No Costs
	Mitigate flood risk in West Ketchum where Bigwood Watershed Flood Risk Report identified cluster of flood claims.	Study drainage channel system for possible blockages.	Floodplain Administrator/Public Works	ROM – No Costs
		Remove blockages from drainage channels. Maintain.	Public Works/Private Property Owners	ROM – $50,000 2015- Conduct Assessment 2016 – Apply for Permits 2017 – Seek Funding

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
	Reduce flood insurance premiums.	Continue to participate in the CRS.	Floodplain Administrator	On-going
		Lower the City's CRS rating from 6 to 5.	Floodplain Administrator	On-going
		Maintain Floodplain Manager Certification	Floodplain Administrator	On-going
	Understand risks associated with possible inundation from failure of the Trail Creek Dam east of Ketchum in City of Sun Valley.	Trail Creek Dam inundation mapping study.	Ryan McDaniel, BHS/FEMA	May be under-way.
	Mitigate flood damage due to events that overload City stormwater drainage systems.	Study drainage systems and develop Master Plan.	Public Works	ROM - $50,000 2016 Seek Funding
		Develop Management Plan.	Public Works	ROM- $50,000 2017 – Develop Plan
		Implement	Public Works	2018 – Seek Funding
		Develop Ordinances to Manage Storm Water in Subdivisions	Public Works	ROM – No Cost 2015 Develop Ordinance

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will reduce potential damage to City infrastructure and structures through implementation of earthquake mitigation techniques.	Protect Infrastructure	Harden city water supply against damage from Earthquakes.	Mayor/Public Works	ROM – Unknown 2015 – Determine Need
		Harden city sewer system against damage from earthquakes.	Mayor/Public Works	ROM – Unknown 2015 – Determine Need
The City of Ketchum will reduce the risk of damage to essential City services.	Reinforce essential building infrastructure facilities to meet earthquake standards.	Construct new public safety building.	Mayor/Fire/Police	ROM – $5,000,000 2015 – Design Structure
		Install propane backup systems on City natural gas generators.	Fire/Public Works	ROM – $50,000 2016 – Seek Funding 2017 – Construct System

Drought

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will protect the Valley's aquifer and our water supply.	Conserve water so that aquifer is not depleted.	Develop a water conservation plan.	City of Ketchum's water consultant, Wendy Pabich	Underway.
		Implement.	Public Works/Planning	ROM – Unknown 2015 – Cost to determined

Avalanche

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will reduce potential death and /or, injuries to the public as well as protect city infrastructure through public warning systems and increased public awareness of avalanche potentials.	Protect lives	Install permanent electrically activated avalanche danger signs in avalanche areas.	Fire/Public Works	ROM - $100,000 2015 – Design System
		Locate, identify and provide known local area isolation shut down controls for utilities such as natural gas and power.	Fire/Public Works/Intermountain Gas/Idaho Power	ROM – Unknown 2015 – Determine Locations and Cost Estimate

Winter Storm - See Avalanche, Power Outage and Flooding.

Lightning

Goal	*Objective*	*Project*	*Responsible Entity*	*S Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will protect its buildings and infrastructure from damage by lightning.	Protect City buildings from damage from lightning strikes.	Install code compliant grounding and lightning protection on all City buildings.	Fire/Public Works	ROM – Unknown 2015 – Determine Locations and Cost Estimate

Hail/Rain – See Flooding.

Power Outage

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will provide auxiliary power and fuel source for City services in case of power outage.	Maintain service level in a power outage situation.	Install generating systems at City buildings.	Public Works	ROM -$500,000 2015 – Seek Funding
		Install a fuel source for City vehicles.	Public Works	ROM - $150,000 2016 – Seek Funding
		Identify evacuation shelters and provide backup power systems for them.	Fire/Public Works/Disaster Services	ROM - $500,000 2015 – Seek Funding

Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will increase the security of City infrastructure.	Reduce the terrorism risk to City infrastructure.	Secure water tanks and pump houses with fencing and cameras.	Public Works	ROM - $150,000 2015 – Design Fencing and protection systems 2016 – Seek Funding 2017 – Install Systems

Firefighting

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will ensure that water system capacity meets fire demands	Water system to meet fire demands with largest well out of service in the event of equipment failure or planned maintenance	Develop redundant groundwater sources (well & well house)	Public Works	ROM - $3,000,000 Project identified in 2010 Water System Master Plan but project not funded 2015 – Seek Funding

Wildfires

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will reduce risk to lives and properties from wildfires.	Protect lives and property.	Create and fund Firewise Team to provide education and mitigation of wildfire risks.	Mayor/Fire	ROM – 5,000 2015 – Seek Funding
		Develop and implement plan to make the City of Ketchum a designated Firewise Community	Fire/Planning/Mayor	ROM – No Cost 2015 – Continue Efforts

Evacuation – See Blaine County Emergency Operations Plan.

Cyber-Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will reduce the potential for external non-authorized access to protected information and systems.	Protect assets and City infrastructure from cyberterrorism attacks.	Interconnect all City infrastructures with primary and redundant communications systems.	Fire/Utilities/IT	ROM - $1,500,000 2015 – Design Upgrades 2017 – Seek Funding 2018 – Implement
		Install secure firewall and controlled access systems to all City infrastructure property.	Fire/Public Works/IT	ROM – $250,000 2015 – Seek Funding

Hazardous Materials

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will identify and increase awareness of potential hazardous material transport and storage locations in the city.	Keep citizens safe from potential hazardous waste spills.	Conduct a hazardous waste study.	Public Works/Fire	ROM – $25,000 2016 – Seek Funding 2017 – Conduct Study
		Conduct a public awareness program.	Public Works/Fire	On-going – LEPC Website
		Place placards to identify hazardous waste at all hazardous waste locations.	Public Works/Fire	ROM - $2500 2015 – Install Placards

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
		Implement regulations and permitting process governing the possession and/or transportation of hazardous materials.	Public Works/Fire	ROM -$5000 2015 – Develop Permit Process

General Hazards

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will ensure that its networks and communications systems are fully functional in the event of an emergency.	Ensure that there is a backup network communications system in the event that the primary system fails.	Install a redundant communications network system for all City infrastructure.	IT/Fire	ROM – $1,500,000 2016 – Seek Funding 2017 – Installation

CITY OF SUN VALLEY

Reliable Power Supply

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Provide for a secondary power line from the substation to the south, to assure we can provide for our guests and residents alike in the event of a long term power outage.	Improve Power Supply	Install the Secondary Power Supply to the City of Sun Valley	Idaho Power	ROM – $200,000/Mile Identify Underground Cost for Comparison
		Develop a Policy Statement in Supporting the Project	Mayor and City Council	No Cost 2015 – Develop Policy Statement

Severe Weather

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce impacts from large winter storms.	Avalanche Protection	Perform an Avalanche Identification Study	Community Development	ROM – $15,000 2015 – Secure Funding 2016 – Conduct Study
		Develop a Public Awareness campaign and Signage	Fire/Street	ROM - $2500 2015 – Place Public Education Materials on LEPC Website 2016 – Seek Funding for Signs
		Develop an Emergency Snow Removal Plan to keep roads clear and critical fire hydrants open during winter storms.	Street Department Fire Department	ROM - $50,000 2015 – Seek Funding in City Budget 2016 – Develop Plan
		Develop public information on how to survive and stay safe with winter storms.	Fire Department Law Enforcement	ROM $50,000 2015 – Seek Funding 2016 – Implement Program

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the impact of long periods of extended cold, due to power outages, or interruption of any other heating sources.	Emergency Sheltering	Identify a community shelter and develop an MOU with the owner for use during an emergency.	Mayor & City Council Fire/Law Enforcement Building Official	ROM $5,000 2015 – Develop Agreements 2016 – Finalize Agreements
	City Operations	Maintain City Operations/Infrastructure Capabilities, Power Generation	Street	Ongoing Cost

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce impact from flooding in the City of Sun Valley	Protect City From Flooding	Develop Evacuation and Mitigation Plan	Fire/Law Enforcement	ROM - $80,000 2016 – Seek FMA Funding 2017 – Perform Study
	Sun Valley Dam Protection	Annual monitoring of existing Dam use, maintenance, and Certification.	Community Development and Street Dept. with Sun Valley Company	Ongoing Cost

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the potential damage to city infrastructure and buildings in the event of an earthquake.	Protect Infrastructure	Perform a Structural Engineering Survey to identify City Infrastructure that need to be seismically retrofitted.	City Engineer	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs
		Seismically retrofit City infrastructure.	Building Official	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs

Wildfire

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce losses of life and property caused by wildfires.	Perform Fuel Reduction Projects	Reduce the Fuels that border the City	Fire Department P@Z	ROM - $200,000 2016 – Seek HMA Funding 2017 – Implement Project
	Improve Wild land Urban Interface Planning	Develop a GIS Based Fuel Model that can be used in Fire Response	Fire Department	ROM – $25,000 2016 – Work with WUI Committee to develop joint project

Handling the Unexpected, Man-Made Disasters

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Planning for Sun Valley events where the unexpected happens	Rapid Intervention	Ensure personnel are trained and prepared	Law Enforcement	ROM – $15,000 2014 – Seek funding to develop plan
	Ensure Necessary Systems in Place for coordinated inter-agency response	Develop an evacuation plan for Sun Valley Company and City	Law Enforcement/Fire/EMS	ROM - $5,000 2016 – Seek Funding from SHGP
		Develop a Community Strategy and media strategy to protect the image and brand of Sun Valley	Law Enforcement/Fire/ Mayor and Council	No Cost 2015 – Develop Strategy

Hazardous Materials

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Be able to deal with and contain a leak or spill from the Ice Rink Anhydrous Ammonia plant, and to warn all occupants of the resort and the cities of Ketchum and Sun Valley.		Develop a Tier 1 and Tier II Evacuation Plan	Law Enforcement/Fire/EMS	ROM - $5,000 2016 – Seek Funding from SHGP

Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the impact of terrorism or vandalism	Protect Community Infrastructure	Develop methods to secure critical infrastructure.	Street/L.E	ROM – Insufficient Data to Estimate Cost 2015 – Identify Critical Infrastructure 2016 – Develop Mitigation Measures 2017 – Seek Funding 2018 – Implement Protection
		Develop a Community Strategy and Media Strategy to Protect the Image and Brand of Sun Valley.	L.E/ Fire, Mayor, City Council	No Cost 2015 – Develop Strategy

Drought

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Protect the City from impacts of long term drought and maximize water resources	Improve Drought Response	Develop a Drought Preparedness Plan	Mayor / City Council	ROM - $5000 2016/2017 Action Item
	Water Conservation	Set alternate watering days	SVW&SD and Mayor / City Council	Existing resources 2016/2017 Action Item

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
	Maximize Water Reuse	Expand the existing SVW&SD reuse water system.	SVW&SD, Sun Valley Company, and City of Sun Valley	Per project basis in future

Other

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Develop a viable Continuity of Government Plan	Improve Disaster Response	Develop a comprehensive Continuity of Government plan	Mayor / City Council	ROM - $5000 2015 – Include as a SHGP Planning Activity

PROJECT PRIORITIZATION

The requirements and the process for prioritization of mitigation projects are very specific as stated in the Code of Federal Regulations is as follows:

"C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction?
(Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))"

During the development of the 2009 Blaine County All Hazard Mitigation Plan the projects were prioritized based primarily on Cost Benefit approach, as that is typically how projects are funded. The current FEMA mitigation guidance says the following:

"b. At a minimum, this list of prioritized projects will be based on a process that results in identification of cost effective hazard mitigation projects with public input, including:

i. An analysis of proposed mitigation projects focused on several key areas, ***including but not limited to: economic (including benefits and cost), engineering, technical, legal, environmental, social, and political feasibility. Selected options that will best fit the community's needs and meet most or all aspects of the feasibility analysis."***

Blaine County Projects

Project	Rank
Develop a Wildland Fire Ordinance which establishes the road widths, access, water supply, and building regulations suitable to ensure new structures can be protected.	H
Designate the WUI areas as a special land use category in the County Comprehensive Plan	H
Bank Armor Upstream Southwest Bank BCDR RR Bridge at Hospital Drive	H
Develop a listing of roads, bridges, cattle guards, culverts, and other limiting conditions and incorporate improvements into the County Transportation Plan	H
Enforcement of Right of Way in Order to Allow Road Drainage Work	H
Heatherland Firewise Communities Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	H
Conduct a study for recharge in flood prone areas	H
Continue Culvert and Bridge Maintenance/Placement and Gravel Road Upgrade Program	M
Bank Armor Upstream West Bank Bellevue Bridge at Broadford Road	M
Bank Armor Upstream East Bank BCRB Bridge Deer Creek Road	M
Fuel Reduction – North of Carey between Austin, Little Wood Reservoir, and Barton Roads. 175 Acres	M
Maintain CRS Status for the County	M
Fuel Reduction – Near Picabo and along Picabo Desert Road 125 Acres	M
Fuel Reduction – Beaver Creek and Sawtooth City Vicinity and North to County Line	M
Install Road Signs as prescribed by NFPA Standards	M
Install Seasonal Road Signage	M
Complete Floodplain Manager Certification Program	M
West of Little Wood Reservoir Road Fuel Reduction 350 Acres	M
Fuel Reduction – Near Gannett and along Punkin Center Road 150 Acres	M
Purchase Road Closed, Smoke Over Road and Water Over Road Signs	M
Smiley Creek Fuel Reduction 10 Acres	M
Fuel Reduction – Little Wood Reservoir road, South of the Reservoir 1,000 Acres	M
Fuel Reduction in the West Magic Area 5 Acres	M
Greenhorn Hillside Firewise Communities Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	M
Construct Injection Capability for floodwaters on Big Wood River	L
Stockpile Temporary Flood Fight Material at W. Glendale BCRB Shop	L
Scott Road Fuel Reduction Project 33 Acres	L
East Magic, Isolated Tracks Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting.	L
Develop a listing of schools and public buildings that need to be seismically retrofitted	L
Eagle Creek Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	L
Earthquake Protection or Hardening County facilities	L
Develop a standard practice for roadside vegetation management.	L
Develop a plan & methodology to protect livestock from biological threats	L
Conduct a County Terrorism assessment on all infrastructure, facilities, and digital systems	L:

City of Bellevue Project Ranking

City of Bellevue	
Project	**Rank**
Update City Water System (in process)	H
Develop Communications Channel (Social Media) for City Residents that can be used for emergency preparedness and updates	H
Survey Critical Infrastructure to determine its snow load capacity. This project could conceivably be combined with the earthquake seismic assessment	M
Fuel Reduction Projects on Wildland Urban Interface areas within and surrounding the City of Bellevue	M
Seek CRS Status for the City	M
Complete Floodplain Manager Certification Program	M
Fuel Reduction Projects on Wildland Urban Interface areas within and surrounding the City of Bellevue	M
Develop a GIS Based Fuel Model that can be used in Fire Response	M
Develop a comprehensive Continuity of Government plan	M
Bellevue 6th and 7th St. Hillside. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	L
Store necessary health care supplies for citizens and guests of Bellevue, in a home care situation.	L

City of Carey Project Ranking

City of Carey	
Project	**Rank**
Develop a gravity feed water supply system for the City	H
Seek CRS Status for the City	H
Install Locked Fencing Around City Utility Systems	H
Complete Floodplain Manager Certification Program	M
Develop a GIS Based Fuel Model that can be used in Fire Response	L

City of Hailey Project Ranking

City of Hailey	
	Rank
Address cross-contamination and backflow in the clean drinking water for the City of Hailey	H
Identify a community shelter and develop an MOU with the owner for use during an emergency.	H
Develop methods to secure critical infrastructure.	H
Develop a comprehensive Continuity of Government plan	H
Install Culvert in south end of Quigley Drainage	M
Purchase a mobile generator to assist in water supply demands during a power outage	M
Develop a public awareness campaign to increase the awareness of avalanche/landslide areas through informational programs and signage	M
Perform a landslide identification study	M
Construct Fuel Storage at the Street Department Shop	M
Survey Critical Infrastructure to determine its snow load capacity. This project could conceivably be combined with the earthquake seismic assessment.	L
Perform a Structural Engineering Survey to identify City and public buildings that need to be seismically retrofitted.	L
Assess Della View area drainage	L
Bigwood River, West Hailey Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	L
Develop a GIS Based Fuel Model that can be used in Fire Response	L
Store necessary health care supplies for citizens and guests of Hailey, in a home care situation. (SCPHD Project)	L
Seismically retrofit critical buildings and infrastructure.	L

City of Ketchum Project Ranking

City of Ketchum	
Project	**Score – 1= L, 2=M, 3=H**
Flooding	
Revise floodplain ordinance to comply with FEMA NFIP requirements.	H
Continue to refine floodplain ordinance for effectiveness and compliance.	H
Continue to participate in the NFIP.	H
Lidar mapping of the Bigwood River in Ketchum.	H
Investigate report of new bridges in Bigwood Watershed Flood Risk Report.	H
Continue to participate in the CRS.	H
Maintain Floodplain Manager Certification	H
Study drainage systems and develop Master Plan.	H
Develop Management Plan.	H

Implement.	H
Develop Ordinances to Manage Storm Water in Subdivisions.	H
Study drainage channel system for possible blockages.	M
Remove blockages from drainage channels. Maintain.	M
Trail Creek Dam inundation mapping study.	M
Lower the City's CRS rating from 6 to 5.	L
Geological	
Harden city water supply against damage from Earthquakes.	L
Harden city sewer system against damage from earthquakes.	L
Drought	
Develop a water conservation plan.	H
Implement.	M
Avalanche	
Install permanent electrically activated avalanche danger signs in avalanche areas.	M
Locate, identify and provide known local area isolation shut down controls for utilities such as natural gas and power.	M
Lightning	
Install code compliant grounding and lightning protection on all City buildings.	L
Power Outage	
Install generating systems at City buildings.	H
Install a fuel source for City vehicles.	H
Identify evacuation shelters and provide backup power systems for them.	M
Terrorism	
Secure water tanks and pump houses with fencing and cameras.	L
Earthquake	
Construct new public safety building.	H
Install propane backup systems on City natural gas generators.	L
Firefighting	
Develop redundant groundwater sources (well & well house)	H
Wildfires	
Create and fund Firewise Team to provide education and mitigation of wildfire risks.	H
Develop and implement plan to make the City of Ketchum a designated Firewise Community	M

Cyber-Terrorism	
Interconnect all City infrastructures with primary and redundant communications systems.	H
Install secure firewall and controlled access systems to all City infrastructure property.	H
HazMat	
Place placards to identify hazardous waste at all hazardous waste locations.	H
Conduct a hazardous waste study.	M
Conduct a public awareness program.	M
Implement regulations and permitting process governing the possession and/or transportation of hazardous materials.	L
General Hazards	
Install a redundant communications network system for all City infrastructures.	M

City of Sun Valley Project Ranking

City of Sun Valley	
Project	**Rank**
Ensure personnel are trained and prepared for Rapid Intervention	H
Develop an evacuation plan for Sun Valley Company and City	H
Maintain City Operations/Infrastructure Capabilities, Power Generation	H
Install the Secondary Power Supply to the City of Sun Valley	H
Develop an Emergency Snow Removal Plan to keep roads clear and critical fire hydrants open during winter storms.	H
Develop a Policy Statement in Supporting the Project	M
Perform an Avalanche Identification Study	M
Develop a Public Awareness campaign and Signage	M
Expand the existing SVW&SD reuse water system	M
Develop a comprehensive Continuity of Government plan	M
Identify a community shelter and develop an MOU with the owner for use during an emergency.	M
Set alternate watering days	M
Develop Evacuation and Mitigation Plan	M
Annual monitoring of existing Dam use, maintenance, and Certification.	M
Develop a Tier 1 and Tier II Evacuation Plan	M
Reduce the Fuels that border the City	M
Develop a GIS Based Fuel Model that can be used in Fire Response	M
Develop a Community Strategy and Media Strategy to Protect the Image and Brand of Sun Valley.	M
Perform a Structural Engineering Survey to identify City Infrastructure that need to be seismically retrofitted.	L
Develop public information on how to survive and stay safe with winter storms.	L
Develop methods to secure critical infrastructure.	L
Develop a Drought Preparedness Plan	L
Seismically retrofit City infrastructure	L

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SECTION 4 REVIEW, EVALUATION AND IMPLEMENTATION

STATUS OF 2009 MITIGATION ACTIONS

The following listing shows the status of mitigation actions for each jurisdiction identified in the 2009 Blaine County Multi-Jurisdiction All Hazard Mitigation Plan. The status column indicates if the project is completed or not, and what roadblocks are slowing progress of each project. Those projects that are not completed or underway, but are deemed feasible, have been integrated into the current project listing. Those projects that are not feasible have been removed from the mitigation project listing.

There were 132 projects identified in the 2009 Blaine County Multi-Jurisdiction All Hazard Mitigation Plan. There were 65 Projects completed for a completion percentage of 49%. The remaining uncompleted projects were moved forward to the 2014 Mitigation Project Listing. The total moved forward plus those added totaled 127 projects of which 60 are new.

Completed **Combined** **Canceled**

Severe Weather

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Blaine County will develop methods to mitigate the losses due to severe weather in the County.	Improve the Safety of County Roads and Bridges	Install temporary Windbreaks in areas where blowing snow occurs along Highway 75 between Bellevue and Sun Valley.	Changed ITD	Moved to State of Idaho
		Install Seasonal Road Signage	Road and Bridge	Move to 2014 list of projects
	Improve Electrical Power Distribution	Implement the Wood River Electrical Plan	Idaho Power	Upgrades in process

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Blaine County will continue to participate in the National Flood Insurance Program and develop actions that will reduce the damage to County infrastructure due to flash and stream flooding.	Maintain the NFIP Requirements	Maintain CRS Status for the County	Floodplain Administrator	Move to 2014 list of projects
		Request Updates of the FIRM Maps	Floodplain Administrator	Complete
		Complete Floodplain Manager Certification Program	Floodplain Administrator	
		Construct Injection Capability for floodwaters on Big Wood River	Flood District	Move to 2014 list of projects
		Conduct a study for recharge in flood prone areas	Flood Districts	Move to 2014 list of projects
		Install Culverts to protect roadways along HWY 26 in the Carey Area	Changed ITD	Moved to State of Idaho
	Improve Drainage Systems	Develop a Culvert Maintenance Program	Road and Bridge	Complete

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Blaine County will reduce potential damage to County infrastructure and structures through implementation of earthquake mitigation techniques.	Priority should be given to schools, public buildings, community evacuation and assessable sites.	Earthquake Protection or Hardening County facilities	Emergency Services	Move to 2014 list of projects
		Seismically Retrofit the Blaine County Court House	Commissioners	Applied for HMA Grant – Grant not successful Courthouse is being upgraded
		Retrofit Information Technology and Dispatch Electronic Equipment to Protect from Seismic Events	Sheriff	Complete
		Ensure enforcement of seismic building code provisions in the International Building Code as adopted	Building Official	Completed
		Develop a listing of schools and public buildings that need to be seismically retrofitted	School District	Move Forward with changed responsible entity
	The media can raise awareness about earthquakes by providing important information to the community.	Publish a special section in newspapers with emergency information on earthquakes.	Emergency Services	Completed through new emergency services website

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Blaine County will reduce the potential damage to property from Landslides by adopting codes and standards for construction in landslide prone areas.	Document Damage	Develop a landslide damage documentation process	Emergency Services	Complete – Adopted hillside ordinance

Wildfire

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Blaine County will reduce the losses caused by wildfire by continuing the Wildland Urban Interface Mitigation Program.	Improve Protection through the proper use of Ordinances and Codes	Develop a Wildland Fire Ordinance which establishes the road widths, access, water supply, and building regulations suitable to ensure new structures can be protected.	P & Z Administrator/Fire Districts	Move to 2014 list of projects
		Designate the WUI areas as a special land use category in the County Comprehensive Plan	P & Z Administrator	Complete through new GIS mapping
	Improve access to areas prone to Wildland Fire	Develop a listing of roads, bridges, cattle guards, culverts, and other limiting conditions and incorporate improvements into the County Transportation Plan	Fire District/Road and Bridge	Complete – Developed as part of Capital Improvement Plan

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
		Determine Secondary Access for summer home areas	Fire Districts	Not Possible because of Topography. Project Canceled.
	Improve Hazard Communications Tools	Use GIS Technology to Link Red Zone Data to Landowner Parcel Maps	Fire District	Revised and Completed through County GIS Department
	Conduct Roadside Vegetation Treatments to reduce flammable fuels immediately adjacent to roads in high risk areas.	Develop a standard practice for roadside vegetation management.	Fire District	Move to 2014 list of projects
Blaine County will reduce fuels in the Wildland Urban Interface	Implement a countywide fuels reduction program	Smiley Creek Fuel Reduction 10 Acres	Smiley Creek Fire Protection District	Ongoing – Part of Firewise
		Beaver Creek and Justus Ranch Fuel Reduction 25 Acres	Emergency Services / Fire District	Complete
		West of Little Wood Reservoir Road Fuel Reduction 350 Acres	Carey Fire Protection District	Ongoing – Part of Firewise
		Scott Road Fuel Reduction Project 33 Acres	Carey Fire Protection District	Ongoing – Part of Firewise
		Fuel Reduction – North of Carey between Austin, Little Wood Reservoir, and Barton Roads. 175 Acres	Carey Fire Protection District	Ongoing – Part of Firewise

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
		Fuel Reduction – Little Wood Reservoir road, South of the Reservoir 1,000 Acres	Carey Fire Protection District	Ongoing – Part of Firewise
		Fuel Reduction – Near Gannett and along Punkin Center Road 150 Acres	Carey Fire Protection District	Ongoing – Part of Firewise
		Fuel Reduction – Near Picabo and along Picabo Desert Road 125 Acres	Carey Fire Protection District	Ongoing – Part of Firewise
		Fuel Reduction in the West Magic Area 5 Acres	West Magic Fire District	Ongoing – Part of Firewise
		Fuel Reduction – Beaver Creek and Sawtooth City Vicinity and North to County Line	Smiley Creek Fire District / County Building Official	Ongoing – Part of Firewise
	Ensure coordination of WUI Fire Mitigation Projects	Organize a group to jointly apply for grants and other funding avenues to implement WUI Fire Mitigation Actions.	Emergency Services	Complete
	Develop Additional Water Supplies for Fire Protection	Develop an agreement with developers and private landowners for access to and use of water sources for fire protection.	Fire District/P & Z Administrator	Completed

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
	Update and Improve Road Signing and Rural Addressing	Install Road Signs as prescribed by NFPA Standards	Road and Bridge	Move to 2014 list of projects

Biological

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Blaine County will seek to reduce the exposure of humans and animals to the West Nile Virus.	Build knowledge of West Nile Virus in the general public.	Maintain an active "fight the bite" public education program.	Health District/Emergency Management	Complete
	Identify risks to livestock from potential biological threats	Develop a plan & methodology to protect livestock from biological threats	Health District/Emergency Management	Move to 2014 list of projects

Structural Fire

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Blaine County will seek to reduce losses from Structure Fires through working with private property owners.	Ensure that all structures have minimum detection and protection devices	Encouraging private property owners to install and maintain smoke detectors on all levels of residences and to place detectors in all bedrooms.	Fire Districts	Complete on LEPC Website
	Develop Additional Water Supplies for Fire Protection	Develop an agreement with developers and private landowners for access to and use of water sources for fire protection.	Fire Districts	Completed

Hazardous Material Event

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Blaine County will seek to identify hazardous material flows through the County.	Protect citizens from releases of hazardous materials in transportation	Conduct a hazardous materials flow study for US and State Highways running through the County.	Emergency Services	Complete – Hazmat Flow Study 2014
Blaine County will seek to identify Hazardous Facilities in the County	Protect citizens from the release of hazardous materials in fixed facilities	Develop a hazardous materials evacuation plan	Emergency Services	Complete

Riot/Demonstration/Civil Disorder

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Blaine County will develop methods to identify and report Civil Disobedience activities.	Educate the Public on Civil Disobedience Reporting	Conduct a public education program to assist the citizens of the County in recognizing and reporting civil disobedience events to County Law Enforcement.	Sheriff's Office	Canceled – Sheriff saw no need for this action

Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Blaine County will identify measures to protect critical County infrastructure and facilities from potential terror incidents.	Identify and protect potential terrorism targets.	Conduct a County Terrorism assessment.	All County Departments	Reassigned to Individual Departments – Redefined Projects to include digital equipment and combined with projects

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
		Protect Critical Infrastructure based on the assessment.	All County Departments	Reassigned to Individual Departments – Redefined Projects to include digital equipment and combined with projects

Other

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Blaine County will improve communication capabilities in remote areas of the County	Improve Communications and Warning	Continue Public Education to register with the Swift System	Sheriff/Emergency Services	Complete
Blaine County will protect citizens from transportation incidents	Protect citizens from aviation incidents	Build a new airport in the southern end of the county	Friedman Memorial Airport / Emergency Services / P&Z	Complete – expanded existing airport

CITY OF BELLEVUE

Severe Weather

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Reduce the impact of long periods of extended cold, due to power outages, or interruption of other heating fuels.	Emergency Sheltering	Identify a community shelter and develop an MOU with the owner for use during an emergency.	Mayor & City Council	Complete
		Develop informational programs and materials to educate the public about emergency heat sources and Food Storage	Mayor & City Council	Complete – County Emergency Services Website
		Purchase an emergency generator for Bellevue Elementary School so this facility can used as the community shelter and EOC	Blaine County School District	Complete
Reduce impacts from winter storms.		Survey Critical Infrastructure to determine its snow load capacity. This project could conceivably be combined with the earthquake seismic assessment	City Engineer	Complete
		Develop an Emergency Snow Removal Plan to keep roads clear and critical fire hydrants open during winter storms.	Public Works	Complete

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
The City of Bellevue will continue to participate in the National Flood Insurance Program.	Maintain the NFIP Requirements	Seek CRS Status for the City	Floodplain Administrator	Move to 2014 list of projects
		Complete Floodplain Manager Certification Program	Floodplain Administrator	Move to 2014 list of projects
	Examine the floodplain for accuracy with NFIP requirements.	Map Floodplain and Flood Prone Areas in the City of Bellevue	City Engineer	Complete
Reduce Impacts from flooding to the City of Bellevue and prevent loss or failure of the only irrigation source (District 45 Canal) to the south county.	Reduce Flood Damage	Protect the Canal North of the Bradford Road Bridge / Improve Rip Rap West Side	Irrigation District #9	Refined Project and Changed Responsible Party –
		Install bank rehabilitation measures to reduce flooding on the Wood River at the head of District 45 Canal	City Public Works	Complete
		Remove gravel bar and debris buildup in the Big Wood River adjacent to City Limits	City Public Works	Complete

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Reduce the potential damage to City infrastructure and buildings in the event of a large earthquake	Protect Infrastructure	Perform a Structural Engineering Survey to identify City and public buildings that need to be seismically retrofitted.	City Engineer	Complete
		Seismically retrofit critical buildings and infrastructure.	City Engineer	Complete

Wildfire

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Reduce the losses of life and property caused by Wildfire.	Improve Wildland Urban Interface Planning	Fuel Reduction Projects on Wildland Urban Interface areas within and surrounding the City of Bellevue	Fire Department	Move to 2014 list of projects
		Develop a GIS Based Fuel Model that can be used in Fire Response	Fire Department	Move to 2014 list of projects
		Develop a Homeowner Education and Implementation Program focusing on defensible space and ignition resistant building materials.	Fire Department	Complete

Biological

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Be prepared to adequately respond to citizen's long-term needs during an extended outbreak of disease.	Improve Pandemic Preparedness	House adequate supplies for emergency workers in the event of a potentially infectious environment.	EMS District	Complete
		Store necessary health care supplies for citizens and guests of Bellevue, in a home care situation.	SCPHD	Move to 2014 list of projects
		Develop a public education campaign about treatment and care options available in Blaine County during a pandemic event.	SCPHD	Complete

Hazardous Materials

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Protect the City residents from hazardous material transportation incidents.	Improve Protection	Develop alternate routing for evacuation, medical care access, and response	Fire Department	Complete
		Provide proper hazardous materials education, training, and equipment for all responders	Fire Department	Complete
		Implement the Community Right to Know Program.	LEPC	Complete.

Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Reduce the impact of terrorism on the City.	Protect Community Infrastructure	Develop methods to secure critical infrastructure.	Public Works	Complete
		Formulate a comprehensive planning and security program for large events.	Law Enforcement	Complete
		Improve data collection and communication on High Profile Visitors.	Law Enforcement	Complete

Other

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Develop a viable Continuity of Government Plan	Improve Disaster Response	Develop a comprehensive Continuity of Government plan	Mayor / City Council	Move to 2014 list of projects
		Subscribe to the WEB-EOC's crisis management system.	Emergency Services	Complete – In County EOC

CITY OF CAREY

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
The City of Carey will continue to participate in the National Flood Insurance Program and develop actions that will reduce the damage to City property and infrastructure due to flooding.	Maintain the NFIP Requirements	Seek CRS Status for the City	Floodplain Administrator	Move to 2014 list of projects
		Complete Floodplain Manager Certification Program	Floodplain Administrator	Move to 2014 list of projects
	Examine the floodplain for accuracy with NFIP requirements.	Map Floodplain and Flood Prone Areas in the City of Carey	City Engineer	Complete
The City of Carey will protect citizens from losses due to flash flooding	Dam Failure Evacuation Planning	Develop a warning system & evacuation for the failure of the Little Wood Dam	Mayor & City Council	Completed by Bureau of Reclamation

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
The City of Carey will reduce potential damage to City infrastructure and structures through implementation of earthquake mitigation techniques.	Protect Infrastructure	Harden city water supply against damage from Earthquakes.	Mayor/Public Works	Canceled by Mayor – Focusing on Protection from Vandalism
		Harden city sewer system against damage from earthquakes.	Mayor/Public Works	Canceled by Mayor – Focusing on Protection from Vandalism

CITY OF HAILEY

Severe Weather

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Reduce the impact of long periods of extended cold, due to power outages, or interruption of other heating fuels.	Emergency Sheltering	Identify a community shelter and develop an MOU with the owner for use during an emergency.	Mayor & City Council	Move to 2014 list of projects
		Develop informational programs and materials to educate the public about emergency heat sources and Food Storage	Mayor & City Council	Complete – County Emergency Services Website
Reduce impacts from winter storms.		Survey Critical Infrastructure to determine its snow load capacity. This project could conceivably be combined with the earthquake seismic assessment.	City Engineer	Move to 2014 list of projects

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Continue to participate in the National Flood Insurance Program	Examine the floodplain for accuracy	Map Floodplain and Flood Prone Areas in the City of Hailey	City Engineer	Complete
		Continue enforcement of elevation requirements in the building permit process	Building Official	Complete
		Complete Floodplain Manager Certification Program	Floodplain Administrator	Complete

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Reduce impacts from flooding city-wide, and prevent structures from being constructed in flood prone areas	Increase Protection	Improve information Dissemination in the event of flooding	Emergency Services	Complete
		Perform a survey of all structures in the FIRM Floodplain to determine if the BFE's are up to code.	City Engineer	Move to 2014 list of projects
	Improve Drainage	Replace undersized culverts	City Engineer	Move to 2014 list of projects

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Reduce potential damage to city infrastructure and structures.	Protect Infrastructure	Perform a Structural Engineering Survey to identify City and public buildings that need to be seismically retrofitted.	City Engineer	Move to 2014 list of projects
		Seismically retrofit critical buildings and infrastructure.	City Engineer	Move to 2014 list of projects

Avalanche/Landslide

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Reduce the potential of deaths or injury by prohibiting construction of structures on "Red Zone" areas and limiting development in "Blue Zone" avalanche areas.	Avalanche/Landslide Protection	Perform a landslide identification study	City Engineer	Move to 2014 list of projects
		Develop a public awareness campaign to increase the awareness of avalanche/landslide areas through informational programs and signage.	Mayor / City Council	Move to 2014 list of projects

Wildfire

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Reduce the losses caused by wildfires, and their impact on persons affected by them.	Improve Wildland Urban Interface Planning	Maintain and update the current WUI Mitigation Plan	Fire Department	Complete
		Develop a GIS Based Fuel Model that can be used in Fire Response	Fire Department	Move to 2014 list of projects

Biological – *Pandemic Flu*

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Be prepared to adequately respond to citizen's long-term needs during an extended outbreak of disease or famine.	Improve Pandemic Preparedness	House adequate supplies for emergency workers in the event of a potentially infectious environment.	EMS District	Complete
		Store necessary health care supplies for citizens and guests of Bellevue, in a home care situation.	SCPHD	Move to 2014 list of projects
		Develop a public education campaign about treatment and care options available in Blaine County during a pandemic event.	SCPHD	Complete

Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Reduce the impact of terrorism or vandalism	Protect Community Infrastructure	Develop methods to secure critical infrastructure.	Public Works	Move to 2014 list of projects
		Formulate a comprehensive planning and security program for large events.	Law Enforcement	Complete

Other

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Develop a viable Continuity of Government Plan	Improve Disaster Response	Develop a comprehensive Continuity of Government plan	Mayor / City Council	Move to 2014 list of projects
		Subscribe to the WEB-EOC's crisis management system.	Emergency Services	Complete – In County EOC

CITY OF KETCHUM

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
The City of Ketchum will continue to participate in the National Flood Insurance Program and develop actions that will reduce the damage to City property and infrastructure due to flooding.	Examine the floodplain for accuracy with NFIP requirements.	Map Floodplain and Flood Prone Areas in the City of Ketchum	City Engineer	Complete
		Complete Floodplain Manager Certification Program	Floodplain Administrator	Complete
	Improve Drainage	Develop Ordinances to Manage Storm Water in Subdivisions	City Engineer	Complete

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
The City of Ketchum will reduce potential damage to City infrastructure and structures through implementation of earthquake mitigation techniques.	Protect Infrastructure	Harden city water supply against damage from Earthquakes.	Mayor/Public Works	Move to 2014 list of projects

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
		Harden city sewer system against damage from earthquakes.	Mayor/Public Works	Move to 2014 list of projects

Structure Fire

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
The City of Ketchum will seek to reduce losses from Structure fires.	Ensure that all structures have minimum detection and protection devices	Encouraging private property owners to install and maintain smoke detectors on all levels of the residences and to place detectors in all bedrooms	Fire Department	Complete on LEPC Website

CITY OF SUN VALLEY

Severe Weather

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Provide for a secondary power line from the substation to the south, to assure we can provide for our guests and residents alike in the event of a long term power outage	Improve Power Supply	Install the Secondary Power Supply to the City of Sun Valley	Idaho Power	In Progress – Discussion regarding underground lines
		Purchase an emergency power generator for the Elkhorn Fire Station.	Fire Department	Complete
Reduce impacts from large winter storms.		Survey Critical Infrastructure to determine its snow load capacity. This project could conceivably be combined with the earthquake seismic assessment	City Engineer	Complete
		Develop an Emergency Snow Removal Plan to keep roads clear and critical fire hydrants open during winter storms.	Street Department/Fire Department	Changed Responsible Party and Moved to 2014
		Develop public information on how to survive and stay safe with winter storms.	Mayor & City Council	Complete

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Reduce the impact of long periods of extended cold, due to power outages, or interruption of any other heating sources.	Emergency Sheltering	Identify a community shelter and develop an MOU with the owner for use during an emergency.	Mayor & City Council/Fire/Law Enforcement/Building Official	Changed Responsible Party and Moved to 2014

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Continue to participate in the National Flood Insurance Program		Complete Floodplain Manager Certification Program	Floodplain Administrator	Move to 2014 list of projects
Reduce impact from flooding in the City of Sun Valley and prevent a collapse of the Sun Valley Lake Dam.	Protect From Flash Flooding	Independent study on the stability of the Sun Valley Dam.	City Engineer	Move to 2014 list of projects

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Reduce the potential damage to city infrastructure and buildings in the event of a large earthquake.	Protect Infrastructure	Perform a Structural Engineering Survey to identify City and public buildings that need to be seismically retrofitted.	City Engineer	Move to 2014 list of projects
		Seismically retrofit critical buildings and infrastructure.	Building Official	Move to 2014 list of projects

Wildfire

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Reduce losses of life and property caused by wildfires.	Perform Fuel Reduction Projects	Reduce the Fuels that border the City through a 400-500 foot Fire Line around the city	Fire Department	HMA Grant Applied for – Grant Not-Awarded- Project redefined and combined with Project below
		Clear the heavily wooded willow area in the center of the Elkhorn Subdivision	Fire Department	Grant was applied for through HMA but not funded - Project redefined and combined with Project below
	Improve Wildland Urban Interface Planning	Maintain an up to date WUI Mitigation Plan	Fire Department	Complete
		Develop a GIS Based Fuel Model that can be used in Fire Response	Fire Department	Move to 2014 list of projects

Biological – *Pandemic Flu*

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Assure we are prepared to respond to citizen's long-term needs during an extended outbreak of disease.	Improve Pandemic Preparedness	House adequate supplies for emergency workers in the event of a potentially infectious environment.	EMS District	Complete
		Store necessary health care supplies for citizens and guests of Bellevue, in a home care situation.	SCPHD	
		Develop a public education campaign about treatment and care options available in Blaine County during a pandemic event.	SCPHD	Complete

Hazardous Materials

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Be able to deal with and contain a leak or spill from the Ice Rink Anhydrous Ammonia plant, and to warn all occupants of the resort and the cities of Ketchum and Sun Valley.		Develop a Tier II Evacuation Plan	Fire/EMS./LE	Coordinate with Sun Valley Company – Moved to 2014 List

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
		Provide proper hazardous materials education, training, and equipment for all responders	Fire Department	Complete

Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Reduce the impact of terrorism or vandalism	Protect Community Infrastructure	Develop methods to secure critical infrastructure.	Public Works	Move to 2014 list of projects
		Formulate a comprehensive planning and security program for large events.	Law Enforcement	Complete
		Improve data collection and communication on High Profile Visitors.	Law Enforcement	Complete

Other

Goal	*Objective*	*Project*	*Responsible Entity*	*Status*
Develop a viable Continuity of Government Plan	Improve Disaster Response	Develop a comprehensive Continuity of Government plan	Mayor / City Council	Move to 2014 list of projects
		Subscribe to the WEB-EOC's crisis management system.	Emergency Services	Complete – In County EOC

SECTION 5 ADOPTION

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U.S. Department of Homeland Security
FEMA Region X
Federal Regional Center
130 228th Street, SW
Bothell, WA 98021-8627

FEMA

June 30, 2015

Honorable Jacob Greenberg
Chair, Blaine County Commissioners
206 1st Avenue South Suite 300
Hailey, ID 83333

Dear Chair Greenberg:

On May 29, 2015, the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) approved the ***Blaine County Multi-Jurisdiction All Hazard Mitigation Plan*** as a multi-jurisdictional local plan as outlined in 44 CFR Part 201. With approval of this plan, the following entities are now eligible to apply for the Robert T. Stafford Disaster Relief and Emergency Assistance Act's hazard mitigation project grants through May 28, 2020:

Blaine County *City of Sun Valley* *City of Hailey*

City of Bellevue

The list of approved jurisdictions has been updated to include the cities of Sun Valley, Hailey, and Bellevue, which have recently adopted their respective addendums to the ***Blaine County Multi-Jurisdiction All Hazard Mitigation Plan***. To continue eligibility the plan must be reviewed, revised as appropriate, and resubmitted within five years of the original approval date.

If you have questions regarding your plan's approval or FEMA's mitigation grant programs, please contact Susan Cleverley, Senior Mitigation Planner with Idaho Bureau of Homeland Security, at (208) 422-6476, who coordinates and administers these efforts for local entities.

Sincerely,

Mark Carey, Director
Mitigation Division

cc: Mark Stephensen, Idaho Bureau of Homeland Security

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BLAINE COUNTY IDAHO MULTI-JURISDICTIONAL

ALL HAZARD MITIGATION PLAN

Resolution No. 2015-21

WHEREAS, all of Blaine County, Idaho has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; the Local Emergency Planning Committee of Blaine County, with participation from local municipalities with like planning objectives has been formed to pool resources and create consistent mitigation strategies within Blaine County; and

WHEREAS, the Committee has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED that the Blaine County Idaho;

1) Adopts in its entirety, the Blaine County Multi-Jurisdictional All-Hazard Mitigation Plan (the "Plan") as the jurisdiction's Natural Hazard Mitigation Plan, and resolves to execute the actions identified in the Plan that pertain to this jurisdiction.

2) Will use the adopted and approved portions of the Plan to guide pre- and post-disaster mitigation of the hazards identified.

3) Will coordinate the strategies identified in the Plan with other planning programs and mechanisms under its jurisdictional authority.

4) Will continue its support of the Local Emergency Planning Committee as described within the Plan.

5) Will help to promote and support the mitigation successes of all participants in this Plan.

6) Will incorporate mitigation planning as an integral component of government and partner operations.

7) Will provide an update of the Plan no less than every five years.

PASSED AND ADOPTED on this 26th day of May 2015.

BLAINE COUNTY COMMISSIONERS

Chairman Jacob Greenberg — 5.26.15 Date

Vice Chair Angenie McCleary — 5·26·15 Date

Commissioner Lawrence Schoen — 05/26/2015 Date

BOARD OF COUNTY COMMISSIONERS BLAINE COUNTY IDAHO SEAL

Attest:

Blaine County Clerk — 5-26-15 Date

Endorsed:
Charles Turner, Coordinator of Disaster Services — 5/26/15 Date

RESOLUTION NO. 2023
A RESOLUTION OF THE CITY OF BELLEVUE AUTHORIZING THE ADOPTION OF THE BLAINE COUNTY MULTI-JURISDICTIONAL ALL-HAZARD MITIGATION PLAN 2015

WHEREAS, all of Blaine County, Idaho has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; the Local Emergency Planning Committee of Blaine County, with participation from local municipalities with like planning objectives has been formed to pool resources and create consistent mitigation strategies within Blaine County; and

WHEREAS, the Committee has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED that the City of Bellevue;

1) Adopts in its entirety, the Blaine County Multi-Jurisdictional All-Hazard Mitigation Plan (the "Plan") as the jurisdiction's Natural Hazard Mitigation Plan, and resolves to execute the actions identified in the Plan that pertain to this jurisdiction.

2) Will use the adopted and approved portions of the Plan to guide pre- and post-disaster mitigation of the hazards identified.

3) Will coordinate the strategies identified in the Plan with other planning programs and mechanisms under its jurisdictional authority.

4) Will continue its support of the Local Emergency Planning Committee as described within the Plan.

5) Will help to promote and support the mitigation successes of all participants in this Plan.

6) Will incorporate mitigation planning as an integral component of government and partner operations.

7) Will provide an update of the Plan in conjunction with the County no less than every five years.

PASSED AND ADOPTED on this 15 day of June 2015.

CITY OF BELLEVUE

By: _____
Mayor

Received by the City Clerk this 15 day of June 2015

_____
Signature:
Clerk

CITY OF BELLEVUE
SEAL
BLAINE COUNTY IDAHO

RESOLUTION NO. XXXX-XX
A RESOLUTION OF THE CITY OF CAREY AUTHORIZING THE ADOPTION OF THE BLAINE COUNTY MULTI-JURISDICTIONAL ALL-HAZARD MITIGATION PLAN 2015

WHEREAS, all of Blaine County, Idaho has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; the Local Emergency Planning Committee of Blaine County, with participation from local municipalities with like planning objectives has been formed to pool resources and create consistent mitigation strategies within Blaine County; and

WHEREAS, the Committee has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED that the City of Carey;

1) Adopts in its entirety, the Blaine County Multi-Jurisdictional All-Hazard Mitigation Plan (the "Plan") as the jurisdiction's Natural Hazard Mitigation Plan, and resolves to execute the actions identified in the Plan that pertain to this jurisdiction.

2) Will use the adopted and approved portions of the Plan to guide pre- and post-disaster mitigation of the hazards identified.

3) Will coordinate the strategies identified in the Plan with other planning programs and mechanisms under its jurisdictional authority.

4) Will continue its support of the Local Emergency Planning Committee as described within the Plan.

5) Will help to promote and support the mitigation successes of all participants in this Plan.

6) Will incorporate mitigation planning as an integral component of government and partner operations.

7) Will provide an update of the Plan in conjunction with the County no less than every five years.

PASSED AND ADOPTED on this _____day of _____ 2015.

CITY OF CAREY

By: _____

Mayor

Received by the City Clerk this _____day of _____ 2015

_____
Signature:
Clerk

RESOLUTION NO. 2015-48
A RESOLUTION OF THE CITY OF HAILEY
AUTHORIZING THE ADOPTION OF THE BLAINE COUNTY
MULTI-JURISDICTIONAL ALL-HAZARD MITIGATION PLAN 2015

WHEREAS, all of Blaine County, Idaho has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; the Local Emergency Planning Committee of Blaine County, with participation from local municipalities with like planning objectives has been formed to pool resources and create consistent mitigation strategies within Blaine County; and

WHEREAS, the Committee has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED that the City of Hailey;

1) Adopts in its entirety, the Blaine County Multi-Jurisdictional All-Hazard Mitigation Plan (the "Plan") as the jurisdiction's Natural Hazard Mitigation Plan, and resolves to execute the actions identified in the Plan that pertain to this jurisdiction.

2) Will use the adopted and approved portions of the Plan to guide pre- and post-disaster mitigation of the hazards identified.

3) Will coordinate the strategies identified in the Plan with other planning programs and mechanisms under its jurisdictional authority.

4) Will continue its support of the Local Emergency Planning Committee as described within the Plan.

5) Will help to promote and support the mitigation successes of all participants in this Plan.

6) Will incorporate mitigation planning as an integral component of government and partner operations.

7) Will provide an update of the Plan in conjunction with the County no less than every five years.

PASSED AND ADOPTED on this 18th day of May 2015.

CITY OF HAILEY

By: _____

Mayor

CITY OF HAILEY ★ BLAINE COUNTY, IDAHO ★ SEAL

Received by the City Clerk this 21st day of May 2015

_____

Signature:
Clerk

RESOLUTION NO. 15-015
A RESOLUTION OF THE CITY OF KETCHUM
AUTHORIZING THE ADOPTION OF THE BLAINE COUNTY
MULTI-JURISDICTIONAL ALL-HAZARD MITIGATION PLAN 2015

WHEREAS, all of Blaine County, Idaho has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; the Local Emergency Planning Committee of Blaine County, with participation from local municipalities with like planning objectives has been formed to pool resources and create consistent mitigation strategies within Blaine County; and

WHEREAS, the Committee has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED that the City of Ketchum;

1) Adopts in its entirety, the Blaine County Multi-Jurisdictional All-Hazard Mitigation Plan (the "Plan") as the jurisdiction's Natural Hazard Mitigation Plan, and resolves to execute the actions identified in the Plan that pertain to this jurisdiction.

2) Will use the adopted and approved portions of the Plan to guide pre- and post-disaster mitigation of the hazards identified.

3) Will coordinate the strategies identified in the Plan with other planning programs and mechanisms under its jurisdictional authority.

4) Will continue its support of the Local Emergency Planning Committee as described within the Plan.

5) Will help to promote and support the mitigation successes of all participants in this Plan.

6) Will incorporate mitigation planning as an integral component of government and partner operations.

7) Will provide an update of the Plan in conjunction with the County no less than every five years.

PASSED AND ADOPTED on this sixth day of July 2015.

THE CITY OF KETCHUM

By: _____
Nina Jonas, Mayor

ATTEST: _____
Sandy Cady, City Clerk

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CITY OF SUN VALLEY
RESOLUTION 2015-14

A RESOLUTION OF THE CITY OF SUN VALLEY AUTHORIZING THE ADOPTION OF THE BLAINE COUNTY MULTI-JURISDICTIONAL ALL-HAZARD MITIGATION PLAN 2015

WHEREAS, all of Blaine County, Idaho has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established requirements for pre and post disaster hazard mitigation programs; and

WHEREAS; the Local Emergency Planning Committee of Blaine County, with participation from local municipalities with like planning objectives has been formed to pool resources and create consistent mitigation strategies within Blaine County; and

WHEREAS, the Committee has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED that the City of Sun Valley:

1) Adopts in its entirety, the Blaine County Multi-Jurisdictional All-Hazard Mitigation Plan (the "Plan") as the jurisdiction's Natural Hazard Mitigation Plan, and resolves to execute the actions identified in the Plan that pertain to this jurisdiction.
2) Will use the adopted and approved portions of the Plan to guide pre- and post-disaster mitigation of the hazards identified.
3) Will coordinate the strategies identified in the Plan with other planning programs and mechanisms under its jurisdictional authority.
4) Will continue its support of the Local Emergency Planning Committee as described within the Plan.
5) Will help to promote and support the mitigation successes of all participants in this Plan.
6) Will incorporate mitigation planning as an integral component of government and partner operations.
7) Will provide an update of the Plan in conjunction with the County no less than every five years.

PASSED BY THE CITY COUNCIL AND APPROVED BY THE MAYOR THIS 23 DAY OF June, 2015.

Dewayne Briscoe, Mayor

Attest:

Alissa Weber, City Clerk

A RESOLUTION OF THE BLAINE COUNY COMMUNITY WILDFIRE PROTECTION PLAN COMMITTEE AUTHORIZING THE INCORPORATION OF THE BLAINE COUNTY COMMUNITY WILDFIRE PROTECTION PLAN INTO THE BLAINE COUNTY MULTI-JURISDICTIONAL ALL-HAZARD MITIGATION PLAN 2014

WHEREAS, all of Blaine County, Idaho has exposure to natural hazards, including wildland fire, that increase the risk to life, property, environment and the County's economy; and

WHEREAS; pro-active mitigation of wildland hazards before a wildfire event can reduce or eliminate long-term risk to life and property; and

WHEREAS; the Community Wildfire Protection Plan (CWPP) Commitee of Blaine County, with participation from local fire departments and districts with like planning objectives has been formed to pool resources and create consistent wildfire mitigation strategies within Blaine County; and

WHEREAS, the Committee has completed a planning process that engages the public, assesses the wildfire risk and vulnerability to the impacts of wildfirel hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED that the Blaine County CWPP Committee;

1) Adopts in its entirety, the Wildfire portions of the Blaine County Multi-Jurisdictional All-Hazard Mitigation Plan (the "Plan") as Community's Wildfire Protection Plan, resolves to execute the actions identified in the Plan that pertain to this jurisdiction.

2) Will use the adopted and approved portions of the Plan to guide pre- and post-disaster mitigation of the wildfire hazards identified.

3) Will coordinate the strategies identified in the Plan with other planning programs and mechanisms under its authority.

4) Will continue its support of the Local Emergency Planning Committee as described within the Plan.

5) Will help to promote and support the mitigation successes of all participants in this Plan.

6) Will incorporate mitigation planning as an integral component of government and partner operations.

7) Will provide an update of the Plan in conjunction with the County no less than every five years.

PASSED AND ADOPTED on this 26th day of May, 2015

BLAINE COUNTY COMMUNITY WILDFIRE PROTECTION PLAN COMMITTEE

CONCUR:

Chief, Wood River Fire and Rescue

Chief, City of Bellevue Fire Department

Chief, Carey Rural Fire Protection District

Chief, City of Hailey Fire Department

Chief, City of Ketchum Fire Department/Chief Ketchum Rural Fire District

Chief, Sun Valley Fire Department

Chief, West Magic Fire District

Idaho Department of Lands- Ed Mauger

Idaho Department of Lands - Tyre G. Holfeltz - Community Fire Program Manager

Acting EMO TFD BCM

U. S. Bureau of Land Management

U. S. Forest Services, Sawtooth National Forest

ATTACHMENTS

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ATTACHMENT 1
AHMP MEETING MINUTES

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November 14, 2013

The LEPC will begin to review the All Hazard Mitigation Plan for each city and the county. The Plan is to be reviewed and updated; this is needed for post incident funding.

Meeting Attendance Roster

Agency	Representative	Position
Bureau of Homeland Security	Gary Davis	Central Area Field Officer
Ketchum Fire	Mike Elle	Fire Chief
Wood River Fire	Bart Lassman	Fire Chief
Sun Valley Police	Mike Crawford	
Blaine County Sheriff's Office	Gene Ramsey	Sheriff
Sun Valley Fire Department	Ray Franco	Chief
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator LEPC Secretary
City of Sun Valley	Nils Ribi	Councilman
Blaine County Emergency Communications	Chris Corwin	GIS
Ketchum Fire Department	Robbie Englehart	Fireman
Hailey Police Department	Dave Stellers	
Salvation Army	Eddie Patterson	Major
Idaho State Police	Robert Storm	Captain
Wood River Fire and Rescue	Jeff Nevins	Assistant Chief
Hailey Fire Department	Craig Aberbach	Chief
Blaine County Communications	Jacob Greenberg	
Carey Fire District	Richard Kimball	Chief
Blaine County	Char Nelson	Operations
South Central Public Health District	Bob Erickson	
Blaine County Disaster Services	Chuck Turner	Coordinator
Blaine County Communications	Angenie McCleary	
Blaine County Emergency Communications	Robin Sellers	
American Red Cross	Mike Baledge	
Sawtooth National Forest	Kelly Lewis	
Sawtooth National Forest	Matt Filbert	

Blaine County
Local Emergency Planning Committee
Working together for a safer community

AGENDA
BLAINE COUNTY LEPC
10:00AM, THURSDAY, NOV. 14, 2013
ELKHORN FIRE STATION, S.V.

WELCOME AND INTRODUCTIONS Craig Abenbach - Angenie

REVIEW OF T and E ACTIVITIES

DECEMBER 6, WEATHER SPOTTER TRAINING , COMMUNITY CAMPUS 10-11AM Handout

AHMP -

Nov. 22
WRW Station 3
9:00 Am

PROGRAM: ANGENIE MCCLEARY, VICE CHAIR OF BLAINE COUNTY BOARD OF COMMISSIONERS, WILL GIVE AND UPDATE OF POST BEAVER CREEK FIRE MITIGATION PLANS AND ACTIVITIES OF THE COUNTY AND ITS COOPERATING PARTNERS AND AGENCIES. THIS INCLUDES, BUT IS NOT LIMITED TO, PRECIPITATION WARNING SYSTEMS, DEBRIS AND RUNOFF STRATEGIES, TESTING, SURVEYS, SEEDING, AND MODELING RESULTS FROM VARIOUS SOURCES.

OTHER ITEMS FOR THE GOOD OF THE CAUSE

HAM Radio Fund + the Raise
Dec. 7
Sweetwater

NEXT MEETING: DEC. 12, RED CROSS, MITIGATION ACTIONS. SUSAN CLEVERLY, BHS

AHMP mtg after this meeting

Blaine County
Local Emergency Planning Committee
Working together for a safer community

Minutes
LEPC Meeting, 11/14/13

Attendance: Nils Ribi, SV; Gary Davis, BHS, Ray Franco, SVFD; Stacy McLaughlin, WMFD; Chris Corwin, Char Nelson, Bl Co Comm, Bart Lassman, Jeff Nevins, WRFR; Rod Domke, MRTA, Bob Erickson, SCPHD, Gene Ramsey, BCSO; Stacy McLaughlin, WMFD; Chuck Turner, LEPC, Jacob Greenberg, Angenie McCleary, Bl Co; Robbie Englehart, Mike Elle, KFD; Mike Crawford, SVPD; Robin Stellers, BCEC; Diana Oschsner, Red Cross; Mike Baledge, Craig Alberbach, HFD; Robert Storm, ISP; Richard Kimball, CRFD; Dave Stellers, HPD; Kelly Lewis, Matt Filbert, Sawtooth National Forest ; Steve Theisen, Gem State Comm (Note: If you attended and didn't sign in, you won't be on this list.)

Welcome and Introductions

T and E Committee Report
The team will be creating a work group to focus on an All Hazards "FireWise" Emergency Preparedness for the entire community. The All Hazard Mitigation Plan for each city and the county is to be reviewed and updated; this is needed for post incident funding.

The Red Cross will be placing a trailer for 100 person shelter at the ITD lot north of Hailey where it will be stored and access maintained year round.

Angenie McCleary, Vice Chair of Blaine County Board of Commissioners, gave an update of post Beaver Creek Fire. After a Silver Jacket Meeting post fire the following activities have taken place 1) USGS developed a Debris Flow Model, 2) Army Corp, USGS and Blaine County determined six (6) sites for Precipitation Monitoring Devices (the team will receive the map showing possible locations), 3) Army Corp and Blaine County did a Flood Risk Assessment which was followed by NRCS and Emergency Watershed Project, 4) Public Awareness was conducted in cooperation with Forest Service and BLM, 5) Additional funding was gathered for a more complete seed mix, 6) Emergency Site Alteration Permit was created and the ordinance is for 180 days, 7) County Departments are working together (i.e. clean up on roads after flooding, 8) Excavation Companies are working with agencies for clean up and putting down topsoil (if anyone has trucks available contact the county), 9) Dispatch will be notified from precipitation devices to landowners as well as snow tell sites and river gauges.

Other items that have been put into effect are a lower (night) speed limit north of Hailey. There is a future interest in conducting a "FireWise" effort to Protect the Health and Safety of the County; The T&E Committee will help with providing grant monies and the Fire Chiefs will take the lead on this.

Other Items for the Good of the Cause
There will be a BLM/FireWise meeting at WRFR Station 3, November 22nd at 9:00 a.m. An informative session about weather spotting will be held December 6th 10am at the Community Campus. The Ham Radio fundraiser will be held December 7th 6:30 pm at Sweetwater; this is potluck dinner and if anyone would like to donate raffle prizes contact Joe Yelda. A testing session will be held at 6:00 pm prior to potluck. Until a replacement is found at Red Cross for Roger Hinton don't hesitate to contact the regional office asap if help is needed.

Meeting adjourned at 10:50. Next meeting will be held December 12th. Program will mostly be AHMP Review. Guest will be Susan Cleverly, BHS Mitigation Planner

December 12, 2013

Susan Cleverly, BHS, discussed the AHMP which the committee will look at consistently starting in February 2014; this will be 12 month project. Things to think about – what has happened over the past year (events mitigation, progress) and what changes took place, how does this apply to me, is the AHMP accurate/applicable and what new danger areas should be added. The Plan needs to be looked at and updated every 5 years. Consider any policy and procedures that have changed and budget areas where we can mitigate possibilities. One note- generators are not included. Cities and Counties were given their respective sections to begin reviewing and thus for only two have returned. BHS is offering web editing; share point program for everyone to use for updating; once we are notified of this being funded we will inform the committee.

Meeting Attendance Roster

Agency	Representative	Position
Bureau of Homeland Security	Gary Davis	Central Area Field Officer
Ketchum Fire	Mike Elle	Fire Chief
Wood River Fire	Bart Lassman	Fire Chief
Blaine County Sheriff's Office	Gene Ramsey	Sheriff
Blaine County Administration	Derek Voss	Administrator
Blaine County Planning and Zoning	Tom Bergin	Building Official
Sun Valley Fire Department	Ray Franco	Chief
Sun Valley Fire Department	Charlie Butterfield	Fireman
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator LEPC Secretary
Blaine County Sheriff's Office	Ed Fuller	
City of Sun Valley	Nils Ribi	Councilman
MRTA	Rod Demke	
Blaine County Emergency Communications	Chris Corwin	GIS
Ketchum Fire Department	Robbie Englehart	Fireman
Idaho Bureau of Homeland Security	Susan Cleverly	Mitigation Planner
American Red Cross	Wade Gayler	
American Red Cross	Roger Hinton	
Hailey Police Department	Dave Stellers	
Bellevue Fire Department	Greg Beaver	Chief
Salvation Army	Eddie Patterson	Major
Idaho State Police	Robert Storm	Captain

Agency	Representative	Position
Gem State Communications	Steve Thiesen	
Wood River Fire and Rescue	Jeff Nevins	Assistant Chief
Hailey Fire Department	Craig Aberbach	Chief
Ketchum Planning and Zoning	Joyce Allgaier	Planner
Blaine County Building Department	Bill Dyer	Building Official
Blaine County Communications	Jacob Greenberg	
Carey Fire District	Richard Kimball	Chief
Blaine County Disaster Services	Chuck Turner	Coordinator

CT's Master

Blaine County
Local Emergency Planning Committee
Working together for a safer community

AGENDA
BLAINE COUNTY LEPC MEETING
10:00AM, THURSDAY, DECEMBER 12, 2013
ELKHORN FIRE STATION, SUN VALLEY

WELCOME, INTRODUCTIONS

Gather up mitigation projects from cities Feb. 13

T AND E INFORMATION

Trailer

WADE GAYLER—REGIONAL DIRECTOR OF EMERGENCY SERVICES, AMERICAN RED CROSS

ALL HAZARD MITIGATION DISCUSSION AND UPDATING ACTIVITIES—SUSAN CLEVERLY, MITIGATION PLANNER—BHS

Education – Public service

DISCUSSION OF ALL-HAZARD AWARENESS (INCLUDING FIREWISE) ACTIVITIES AND EDUCATION PROGRAM Pick up mitigation updates – Land use planning
Fire Mitigation
Soil stability study
Rift in Sawtooth Valley

OTHER ITEMS FOR THE GOOD OF THE CAUSE—ANNOUNCEMENTS, CLASSES, ETC.

PIO Class – TEEX Consortium

Relevant Flood Fight/operation class

Feb. 13

NEXT MEETING WILL BE THURSDAY, JANUARY 9TH.

Blaine County
Local Emergency Planning Committee
Working together for a safer community

Meeting Minutes
December 12, 2013

Attendance: Ray Franco, Charlie Butterfield, SVFD; Stacy McLaughlin, WMFD; Ed Fuller, BCSO; Nils Ribi, SV; Rod Domke, MRTA; Robin Stellers, Chris Corwin, BCEC; Mike Elle, Robbie Englehart, KFD; Gary Davis, Susan Cleverley, BHS; Wade Gayler, Roger Hinton, ARC; Dave Stellers, HPD; Greg Beaver, BFD; Eddie Patterson, ISA; Robert Storm, ISP; Tom Hellen, City of Hailey; Pat McMahon, SVWSD; Bart Lassman, Jeff Nevins; WRFR; Craig Aberbach, HFD; Joyce Allgaier, Ketchum Planning; Bill Dyer, Bl Co Bldg; Jacob Greenberg, BCC; Richard Kimball, CFD, Chuck Turner, LEPC. (Note: If you attended and didn't sign in, you won't be on this list.)

Welcome and Introductions

T and E Committee Report
The team is doing a preliminary head start on a multi-agency/discipline/media information campaign regarding All Hazards/FireWise. We will meet on Wednesday, December 18, 2013 in the training room at the Public Safety Facility.

Discussion Items
Wade Gayler, Regional Director of Emergency Services, American Red Cross discussed "Greater Idaho" which consists of 42 counties broken into 18 areas with leadership teams under each. They are reengineering as one Red Cross where they will be adding resources/staff and more 100 person trailers (one which will be at ITD north of Hailey). Some focus groups will be managing leadership and training, 1st aid/ hydration stations, Fire Prevention (hopefully through a grant) where they would look into alternative fuels, mitigation, CO2/smoke detectors, fire extinguishers, conducting hazard hunts and creating a 72 hour preparedness plan. They would like to help/work with FireWise and seeing what kinds of partnership opportunities are available.

Susan Cleverley, BHS, discussed the AHMP which the committee will look at consistently starting February 2014; this will be a 12 month project. Things to think about – what has happened over the past year (events, mitigation, progress) and what changes took place, how does this apply to me, is it accurate/applicable and what new danger areas should be added. The plan needs to be looked at and updated every 5 years. Consider any policy and procedures that have changed and budget areas where we can mitigate possibilities. One note – generators are now included. Cities and counties were given their respective sections to begin reviewing and thus far only two have been returned. BHS is offering a web editing; share point program for everyone to use for updating; once we are notified of this being added we will inform the committee. Chuck highlighted areas from the FY 2013 National Preparedness Grant Program/Vision Document.

Other Items for the Good of the Cause
A PIO class is being scheduled for spring/summer 2014; this will be a 2 day class in Twin Falls sponsored by BHS and South Central Health. The Army Corps of Engineers is planning, along with Blaine County, to present a flood fight operations class, concentrating on the results of their study this fall after the fire. This study addresses debris flow as well as other areas of interest.

Meeting adjourned at 11:20. Next meeting will be held January 9, 2014.

February 13, 2014

Autumn Roberts, BHS, did a demonstration on how to use the emergency operations planning tool (EOPT) for updating the AHMP. If committee members need access to the website they were directed to contact Chuck Turner. A copy of the handout on how to access the website and make changes was available from Stacy McLaughlin.

Meeting Attendance Roster

Agency	Representative	Position
Ketchum Fire	Mike Elle	Fire Chief
Wood River Fire	Bart Lassman	Fire Chief
Sun Valley Police	Walt Flemling	Chief
Blaine County Sheriff's Office	Gene Ramsey	Sheriff
Sun Valley Fire Department	Ray Franco	Chief
Sun Valley Fire Department	Charlie Butterfield	Fireman
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator LEPC Secretary
City of Sun Valley	Nils Ribi	Councilman
MRTA	Rod Demke	
Blaine County Emergency Communications	Chris Corwin	GIS
Ketchum Fire Department	Robbie Englehart	Fireman
Salvation Army	Eddie Patterson	Major
Wood River Fire and Rescue	Jeff Nevins	Assistant Chief
Gem State Communications	Steve Thiesen	
Ketchum Police Department	Steve Harkin	
Sun Valley Company	Mark Beelaert	
South Central Public Health District	Bob Erickson	
South Central Public Health District	Tammi Pearson	Planner
Carey Fire District	Richard Kimball	Chief
BHS	Gary Davis	South Central Idaho AFO
BHS	Autumn Roberts	Planner
Sun Valley Police Department	Mike Crawford	Officer
St. Lukes Medical Center	JoDee Alverson	Emergency Planner
Governor's Committee of Volunteerism	Cindy Jesinger	
Blaine County Disaster Services	Chuck Turner	Coordinator

Blaine County
Local Emergency Planning Committee
Working together for a safer community

CT's Master

AGENDA
BLAINE COUNTY LEPC MEETING
10:00AM, THURSDAY, FEB.13, 2014
ELKHORN FIRE STATION, S.V.

WELCOME, INTRODUCTIONS

AUTUMN ROBERTS, BHS, WILL DEMONSTRATE HOW TO USE THE EMERGENCY OPERATIONS PLANNING TOOL (EOPT) TO GO ONLINE AND EDIT YOUR PART OF OUR CURRENT AHMP FOR THE PURPOSE OF UPDATING THE DOCUMENT.
THOSE WHO HAVE SIGNED UP (IT'S NOT TOO LATE TO DO SO. CONTACT ME.) MAKE SURE YOU BRING A LAPTOP (WIFI CAPABLE) TO LEARN HOW TO USE THE EOPT PROCESS.
THOSE WHO DON'T GET SIGNED UP CAN STILL BRING A LAPTOP TO FOLLOW ALONG (AUTUMN WILL HAVE HANDOUTS) TO DETERMINE IF THEY WANT TO EDIT THEIR PART OF THE AHMP IN THIS MANNER.
WE ARE REALLY AT THE FRONT END OF THIS PROCESS, WITH OTHER CHOICES OF USING CD COPY, HARD COPY, OR FLASH DRIVE COPY TO EDIT THE DOCUMENT.
SHOULD BE VALUABLE EXERCISE.

MAR. 6 1:30

FRED ABT, BHS, WILL BE HOSTING A FLOOD FIGHT OPERATIONS VIDEO CONFERENCE EITHER THE FIRST OR SECOND WEEK IN MARCH. LAST YEAR'S WAS A VALUABLE TOOL FOR FLOOD RESPONSE INFORMATION. LATER IN THE SPRING HE WILL ALSO BE HOSTING A SIMILAR VTC DEALING WITH WILDFIRE RESPONSE AND PROCEDURES. LET ME KNOW IF YOU ARE INTERESTED.

ACE FLOOD FIGHT OPERATIONS WORKSHOP INFORMATION Feb 24-28th

Fred Abt MAR 6 - VTC Floods

2011 and 2012 HSGP Closeout Calendar:

- Last Day for GANs requiring an EHP, March 14, 2014
- Last day for Special Project Requests, April 1, 2014
  - Special Projects are anticipated to be evaluated by April 18, 2014
  - Special Projects are anticipated to be awarded by May 1, 2014
  - Special Projects are to be completed by July 31, 2014
  - Final Special Project expenses due by August 15, 2014
- Last day for GAN Requests, April 15, 2014
- Last day for obligations, April 15, 2014
- The 2011 and 2012 SHPG closes August 31, 2014

wildfire Feb 19 TTX -
FMA TTX - MAR. 19 Live Exer.

PIO CLASS IN TWIN FALLS IN APRIL IS FULL

LEPC/PREPAREDNESS WEBSITE INFORMATION ~~Florida~~ website

NEXT MEETING: THURSDAY, MARCH 13TH (Fire Chiefs) meet w/ me briefly)

Sign up -

DON'T FORGET THE NEXT DAY, FRIDAY, FEB. 14TH , IS VALENTINE'S DAY

Blaine County
Local Emergency Planning Committee
Working together for a safer community

Meeting Minutes

February 13, 2014

Attendance: Ray Franco, Charlie Butterfield, SVFD; Stacy McLaughlin, WMFD; Nils Ribi; Rod Domke, MRTA; Chris Corwin, BCEC; Mike Elle, Robbie Englehart, KFD; Gary Davis, BHS; Eddie Patterson, ISA; Bart Lassman, Jeff Nevins; WRFR; Richard Kimball, CFD; Steve Harkins, KPD; Mark Beelaert, SVCo; Bob Erickson, SCPHD; Mike Crawford, Walt Femling, SVPD; Tami Pearson, SCPHD; JoDee Alverson, St. Lukes; Steve Theisen, Gem State Comm; Cindy Jesinger, Gov's Comm on Volunteerism; Gene Ramsey, BC Sheriff; Autumn Roberts, BHS; Chuck Turner, LEPC. (Note: If you attended and didn't sign in, you won't be on this list.)

Welcome and Introductions

T and E Committee Report

The Communications Project Design document was reviewed and discussed. A review of a website in Florida was given to show what items could be included and how things could look. There needs to be a commitment from all members of the LEPC is in order for this to work effectively. If you didn't receive a copy of the document please contact Stacy McLaughlin and all comments are to be given to Stacy for incorporation into the plan.

Discussion Items

Autumn Roberts, BHS, did a demonstration on how to use the emergency operations planning tool (EOPT) for updating the AHMP. If you need access to the website please send name and email address to Chuck Turner. If you would like a copy of the handout on how to access the website and make changes please contact Stacy McLaughlin.

Other Items for the Good of the Cause

Important upcoming dates ~

February 19th ~ Table Top on Wildland Fires at SCPH in Twin Falls.
February 24th ~ Army Corp of Engineers Debris Flow Study.
March 6th ~ Flood Fight Operations 1:30 – 3:00 at PSF in Hailey.
March 19th ~ Friedman Memorial Airport Table Top.
June 14th ~ Airport Full Scale Exercise.

2011 and 2012 HSGP Closeout Calendar was reviewed.

Meeting adjourned at 11:20. Next meeting will be held March 13, 2014.

Blaine County Flood Response Technical Assistance
24-28 February 2014

OBJECTIVES:

- Review County and community flood preparedness.
- Provide information to assist county and surrounding communities with preparing for and responding to increased flood risk associated with post-wildfire conditions.
- Conduct site specific field investigations to high risks areas to brainstorm flood preparation and response options.

LOCATION:

Disaster Services, 1650 Aviation Drive, Hailey Idaho - 24 and 25 morning Feb.
Specific locations on Big Wood and Tributaries - 25 afternoon through 28 Feb.

AGENDA:

Monday, February 24, 2014

Meet at Disaster Services, 1650 Aviation Drive, Hailey Idaho

8:00 am – 8: 15 am **Introductions and Week's Objectives**
Jeff Stidham, USACE

8:15 am – 8:45 am **National Flood Insurance Program**
Keri Sigman-Smith, IDWR

8:45 am – 10:00 am **Community Flood Preparedness**
Jeff Stidham, USACE

10:00 am – 10:15 am **BREAK**

10:15 am – 11:00 am **Community Flood Preparedness** (continued)
Jeff Stidham, USACE

11:00 am – 11:45 am **Idaho Bureau of Homeland Security Flood Response Process**
Gary Davis, IBHS

11:45 am – 1:15 pm **LUNCH**

1:15 pm – 2:15 pm **Permitting Requirements**
James Joyner, USACE

2:15 pm – 3:15 pm **Products and Services of the National Weather Service**
Corey Loveland and Vernon Preston NOAA NWS

3:15 pm – 3:30 pm **Tuesday Logistics**
Jeff Stidham, USACE

Tuesday, February 25, 2014

Meet at Disaster Services, 1650 Aviation Drive, Hailey Idaho

8:00 am – 8:15 am **Introductions and Day's Objectives**

8:15 am – 9:15 am **Beaver Creek Burn Area Precipitation Gage Network**
David Evetts, USGS

9:15 am – 11:15 am **Site Investigation Preparation** - *Facilitated by Brandon Hobbs, USACE*

Review Site Checklist/Template
Identify High Priority Sites
Discuss Site Travel Logistics

11:15 am – 5:00 pm **Site Investigations**

Wednesday, February 26, 2014

8:00 am – 5:00 pm **Continue Site Investigations**

Thursday, February 27, 2014

8:00 am – 2:00 pm **Continue Site Investigations**

3:00 pm – 5:00 pm **Wrap up with County Officials**
at Disaster Services, 1650 Aviation Drive, Hailey Idaho

PARTICIPANTS:

- Walla Walla District, Corps of Engineers
  - Jeff Stidham, Disaster Response Manager
  - Technical Assistance Team:
    - Brandon Hobbs, Hydraulic Engineer
    - Mark Mendenhall, Civil Engineer/Project Manager
    - Alex Hammond, Civil Engineer
    - Simeon Francis, Project Manager
  - Ellen Berggren, Silver Jackets Coordinator
  - James Joyner, Regulatory Division
- State Agencies
  - Idaho Bureau of Homeland Security – Gary Davis, Field Officer
  - Idaho Department of Water Resources - Keri Sigman, State Floodplain Administrator
- Federal Agencies
  - National Weather Service – Corey Loveland, Service Hydrologist and Vernon Preston, Warning Coordination Meteorologist

US Geological Survey – David Evetts, Assistant Director for Hydrologic Data; Ken Skinner, Hydrologist; and Jake Jacobson, Idaho Falls Field Office Chief

- Blaine County and Communities
  - Angenie McCleary, County Commissioner
  - Chuck Turner, Emergency Response Manager

- Others as identified by Blaine County

PRODUCTS:

- Briefings about agency roles, responsibilities and assistance for flood preparation and during response.
- Informal report of possible flood response options for site specific locations.
- Identify gaps in County flood response plan.

Idaho Advance Measures – Blaine County, Idaho
February 2014

Site Assessment Field Notes

Star Bridge – Blaine County (Visited 25Feb14) Loc. 43° 29.488´ N, 114° 17.725´ W
Site Description – Star Bridge is the next bridge upstream from the Broadford Road Bridge and Levee vicinity on Broadford Road. There is a levee present upstream of the bridge on the right bank of the river, including irrigation headgates through the levee. There is a levee on river left bank downstream of the bridge that appears to be in good shape, and may be privately owned and maintained. There appeared to be some erosion beginning around both bridge abutments. The land south of the bridge on both sides of the river is likely low-lying wetland.
Identify Flood Threats – Flooding could threaten Star Bridge itself by exacerbating the erosion already evident around the abutments. There are homes behind the right bank levee upstream of the bridge. General topography behind the levee would likely lead flood water to cross Broadford Road in one or more locations south of the bridge, which could threaten the road or cut off an important travel route. Debris could build up on the bridge, exacerbating local flood conditions and affecting the nearby levees.
Flood Response Objectives – Protect Star Bridge to maintain the SH-75 alternate travel route and local access on Broadford Road. Protect right bank levee upstream of bridge to contain river from overtopping the right bank and threatening properties and Broadford Road. Keep bridge clear of debris.
Resources – Blaine County could use available Road and Bridge department equipment and materials (river run fill, riprap) to protect the road and levee. Additional materials and equipment, if needed, would have to be obtained either through mutual aid agreements with nearby municipalities or via contracting. Access/right-of-entry onto the levee would need to be negotiated if not already obtained. "Water over roadway" signs could be used for nuisance water. Jersey barriers and visqueen or fill could be placed to protect roadway if workable. Personnel to run equipment, control equipment flow, and manage vehicular traffic through the area would be required. Regulatory permitting is likely needed at this location. Debris accumulation along the upstream face of the bridge could be removed from the bridge using an excavator with a thumb. Alternately, equipment could be used to pull the debris out of the active flow of the river to the sides of the channel, as long as it was done such that the debris would not re-enter the flow or subsequently threaten this or downstream structures.
Contingency Planning – If the flood event were big enough, it might be possible to open/breach the irrigation headgates on the levee. This is a political decision, and affected homeowners on the landward side of the levee, south of the bridge, would have to be notified (these residents already live in a mapped floodplain). Doing so could alleviate some flow pressure on the bridge and allow the river to access additional floodplain. Depending on flow levels, Broadford Road could possibly be protected and remain open. The wetlands to the south of the bridge could be a location for seepage through the levee to occur. The area would need to be watched for boils or uncontrolled seepage. The irrigation headgates may be a weak point in the levee and should be

Site Assessment Field Notes

protected with the levee. Blaine County would need to investigate the legality of protecting the headgates, or request the headgates be protected by the irrigation company. Star Bridge itself should be monitored for signs of erosion or other damage. An evacuation warning for some residents may become necessary and the County should be prepared to render aid.

Della Vista Subdivision – Hailey (Visited 26Feb14) Loc. 43° 30.459´ N, 114° 18.859´ W
Site Description – The subdivision is located on river left near the downstream end of Hailey. The river is pushed up against the side of the valley at this location, so the neighborhood is necessarily part of the floodplain. Many homes near the river are built with elevated first floors. There is a sewer lift station in the floodplain. Some homes to the east of the river, farther back in the subdivision, are in relative low spots that may fill in once reached by water.
Identify Flood Threats – Floodwaters will enter into the neighborhood from the upstream end and spread out to the east (river left) as the topography allows. Homes are at risk of regular flooding. Sewer infrastructure is at risk from floodwater infiltration. If a flood event were large enough, access into parts of the neighborhood by emergency vehicles could be cut off. At certain times of the year, avalanches blocking the Big Wood River and backing water up into the subdivision can be a problem.
Flood Response Objectives – The City of Hailey should aim to provide information about impending flood conditions and material and emergency support to individual homeowners (sandbags, emergency services). No active flood fight to exclude water from the subdivision is expected.
Resources – This location is in the City of Hailey jurisdiction. The nature of a flood fight in this location is to assist homeowners in protecting themselves and providing information and emergency services as possible. Personnel to monitor the area would be useful. City crews and emergency personnel would be useful in communicating the impending risk. The sewer system could be protected by plugging manholes and floodproofing the sewer lift station. City stockpiled sandbags should be issued upon request to local residents to protect their houses. Additional sandbags may be obtained from neighboring jurisdictions through mutual aid, through the state or Federal government, or via contract or purchase.
Contingency Planning – Emergency access could be an issue. As flood waters rise, they may reach a point where emergency vehicles can no longer enter the area. An evacuation warning and assistance could be provided prior to these conditions developing. Debris or avalanches could block or partially block the river in the vicinity of the subdivision, exacerbating flood conditions. It is unlikely that these blockages could be reasonably cleared during a flood event, so potential evacuation efforts may be required.
Deer Creek Bridge – Blaine County (Visited 26Feb14) Loc. 43° 33.416´ N, 114° 20.571´ W
Site Description – Deer Creek Bridge over the Big Wood River on Deer Creek Road. The bridge suffered a serious erosion event in the 2006 flood, where a six-foot wide hole opened up on the west approach to the bridge behind the abutment, requiring rapid emergency repair. The river passes through the bridge at an adverse angle. An old

Site Assessment Field Notes

remnant river channel on the left (east) bank could be reactivated if water found a path to it, which could threaten Deer Creek Road east of the bridge.
Identify Flood Threats – Flood events could continue to threaten the bridge in similar ways to the 2006 event. Debris buildup on the upstream face of the bridge could cause additional flood issues in the vicinity of the bridge.
Flood Response Objectives – Protect Deer Creek Bridge. Potentially protect embankment upstream of private land on left bank upstream of bridge to contain water in main channel and exclude it from historic channel on left (east) bank. Keep the bridge opening clear of debris.
Resources – Personnel to patrol the bridge regularly would be needed. Road and Bridge Department has some fill and riprap material and equipment to deliver and place on site. Personnel would be required to operate equipment, control equipment flow, and control local vehicular traffic. Additional material and equipment could be obtained from a neighboring jurisdiction through mutual aid, or via contracting. Work on the bridge abutments may require regulatory permitting. If a flood fight were to be conducted on the left bank on or near private property, rights of entry would be required, and fill and riprap, or sand bags or bulk bags would be needed to accomplish work. The County would have to make a political decision about whether to pursue this option. Debris could be removed from the upstream face of the bridge using an excavator with a thumb. Alternately, equipment could be used to pull the debris out of the active river flow to the sides of the channel, as long as it was done such that the debris would not re-enter the flow or subsequently threaten this or downstream structures.
Contingency Planning – Previous levee construction and armoring on both banks may make hydraulics more difficult or unpredictable at high flows, which could cause erosion or overbank flooding in areas not previously experienced. Relationships and history with adjacent homeowners could complicate a flood fight, depending on locations and objectives. If water did find a path to the left overbank and the remnant channel, it could threaten Deer Creek Road, requiring additional road protection or signage for water over roadway.

<u>Hospital Bridge Area – Blaine County</u> (Visited 26Feb14) Loc. 43° 39.234´ N, 114° 20.965´ W
Site Description – The SH-75 Bridge and adjacent rails to trails truss bridge cross the Big Wood River upstream of the regional hospital, between the cities of Hailey and Ketchum. Erosion is occurring on the river right bank where the river turns to the left to pass under the bridges. During high flows, the river could access floodplain on both sides of the old railroad embankment, which runs adjacent to SH-75. It is unclear how far the water can back up in this vicinity, but it seems unlikely that water could directly reach the hospital from this location. There are utilities (sewer, power, a sewer lift station) that may be affected downstream of the bridges.
Identify Flood Threats – Flooding may affect sewer manholes, a sewer lift station, and electrical boxes in the floodplain. High water could have a negative impact on the old railroad embankment or SH-75 embankment, though this seems to be a low probability event. Debris buildup on either bridge (upstream face) could exacerbate flood conditions in the vicinity

Site Assessment Field Notes

Flood Response Objectives – The primary objective is to protect utility connections, manholes, and the sewer lift station. A secondary objective would be to protect roadways and SH-75 if the water rose high enough to reach them, or if debris was an issue on either bridge.
Resources – Personnel to patrol the area as a flood event starts would be useful. Utilities, manholes, and the sewer lift station can be plugged internally prior to a flood event, or protected by sandbags and visqueen directly. A cutoff wall to protect the manholes and roads could be constructed out of sandbags, bulk bags, or Jersey barriers as needed. Special protection for electrical boxes may be required and should be coordinated with the power company. Equipment to transport and place these materials and operators to run the equipment would be needed. Any fill in the floodplain would likely require regulatory permitting. Debris removal could be accomplished using an excavator with a thumb to pick the debris from the river. Alternately, equipment that could move the debris out of the active river flow such that it would not re-enter the flow and threaten this or downstream structures could be used.
Contingency Planning – It is possible during a high water event that roadway embankments could be threatened. Protection of SH-75 would be paramount and should be coordinated with ITD. Other roadways that could be affected by flooding and impede access into and out of the hospital should be protected. The rail bridge (rails to trails) or the SH-75 bridge abutments could be threatened during a flood event, and protection of them would be vital. Fill, equipment, and personnel to stage that protection could be required. It seems very unlikely that water would find a path to the regional hospital itself, but the area should be monitored during a flood event and protection of the hospital and ingress/egress routes should be paramount.

<u>Bridge over Warm Springs Creek, Near Ketchum – Blaine County</u> (Visited 26Feb14)
Loc. 43° 40.919´ N, 114° 25.172´ W
Site Description – Through a maintenance contract, Blaine County is responsible for road maintenance along the Warm Springs Creek drainage, including areas on Forest Service Land. There are several small bridges that cross the creek up the drainage and serve many residents. The road is a primary ingress and egress route, and during winter months is the only way in and out. Avalanches and landslides are possible up the creek drainage and may be exacerbated by burned conditions.
Identify Flood Threats – An avalanche or landslide could block Warm Springs Creek and/or the road at many locations up the drainage, causing flooding that could threaten the road and/or access for residents. Bridges could be damaged by high flows or flash floods. Debris buildup on the bridges could cause additional backwater effects or threaten small bridge structures.
Flood Response Objectives – The primary objective is to keep Warm Springs Creek road open for residential and emergency access.
Resources – Flooding in the Warm Springs Creek Drainage may affect the road and bridges. Regular patrols to monitor bridge and road conditions should begin when high water is predicted or beginning to occur. Protection of roads by placement of fill to the sides of the roads, localized sandbags or bulk bags, Jersey barriers, or other such methods may be necessary. Bridge abutments can be protected by riprap if necessary. The County has some ability to provide and place these materials. Personnel to patrol

Site Assessment Field Notes

the area, operate the equipment, control work and equipment flow, and control traffic would be necessary. Additional resources can be acquired from neighboring municipalities via mutual aid or through contracting. Any fill or other material placed off the road may require regulatory permitting.
Contingency Planning – The nature of flooding in Warm Springs Creek drainage is likely to be widespread on the narrow valley bottom and on both sides of the road. This may make it impractical to protect the roadway. Emergency personnel should prepare to mount rescue in adverse conditions if necessary. Local residents should be warned of the nature of the flooding if they may become cutoff. An evacuation warning could be issued when life safety issues become great enough. If the area becomes difficult or impossible to enter, the County should be prepared to enter the area after a flood to inspect and repair damages to roads and bridges once flood waters recede.

Rotary Park Area – City of Ketchum (Visited 26Feb14) Loc. 43° 41.213´ N, 114° 22.356´ W
Site Description – Two bridges upstream of the park, including Warm Springs Road, have previously been threatened during flood events. One bridge has already been replaced due to debris issues, but some concern remains. Widespread flooding at this location is not expected.
Identify Flood Threats – Debris buildup on the parallel bridges is a primary concern. Flood flows may also threaten bridge abutments.
Flood Response Objectives – Protect the bridges and remove debris buildup.
Resources – The City of Ketchum has a contract in place with a contractor that can pull debris off the bridges (upstream sides). Additional equipment and personnel could be obtained, if needed, from neighboring municipalities through mutual aid or by additional contract. If the bridge abutments become threatened, riprap may be necessary. Personnel and equipment would be required to place it. If these resources are not available within Ketchum, additional materials and equipment could be brought in via mutual aid or additional contract. No regulatory permitting should be required for debris removal, provided the debris is disposed of in an upland location.
Contingency Planning – If debris buildup causes significant backwater, nearby property owners would need to be notified. Ketchum personnel should be available to communicate the risk and support local landowners' efforts to protect homes.

Parkway Drive Vicinity – City of Ketchum (Visited 26Feb14)
Site Description – Downstream of Warm Springs Road, the homes on the river side of Parkway Drive are protected by a small levee. Not all of these homes are in a mapped flood zone. Some shallow flooding was observed in 2006.
Identify Flood Threats – If the levee fails, homes could face additional flooding and road access problems.
Resources – The City of Ketchum should have personnel patrol the area as flooding becomes imminent or is occurring. Local personnel should be ready to help local homeowners protect their homes by issuing information, and potentially sandbags. Emergency responders should be available. Any attempt to directly repair the levee may require regulatory permitting for in-water work.

Site Assessment Field Notes

Contingency Planning – Widespread flooding on the left (east) bank of the river is unlikely at this location. Should an unforeseen condition develop that threatens life safety, the City should be prepared to support local residents as needed.

Enclosure 5: District Participation

a. Team members:

- Brandon Hobbs
- Mark Mendenhall
- Simeon Francis
- Alex Hammond

b. Supporting personnel:

- Brian Schnick, GIS specialist, General Engineer Branch
- Ellen Berggren, Silver Jackets Coordinator and Boise Field Office supervisor
- Kelly Urbanek, Chief, Regulatory Division
- Linda Tyson, Boise Field Office Administrative Assistant
- Barbara Keatts, Readiness Office Administrative Assistant

March 13, 2013

Brandon Hobbs, Army Corp of Engineers (USACE) reported on recent activities and studies that the Corp has performed in Blaine County. He gave a presentation that explained what the Corp does, what is can and can't do, and what services the County could expect in the event of a flood. "All Disasters start and end at the local level". Much of the products which the Corp has provided since 2009 can be used in the update of the AHMP.

Meeting Attendance Roster

Agency	Representative	Position
Ketchum Fire	Mike Elle	Fire Chief
Wood River Fire	Bart Lassman	Fire Chief
Sun Valley Police	Walt Flemling	Chief
Blaine County Sheriff's Office	Gene Ramsey	Sheriff
Sun Valley Fire Department	Ray Franco	Chief
Sun Valley Fire Department	Charlie Butterfield	Fireman
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator/LEPC Secretary
City of Sun Valley	Nils Ribi	Councilman
Blaine County Emergency Communications	Chris Corwin	GIS
Ketchum Fire Department	Robbie Englehart	Fireman
Salvation Army	Eddie Patterson	Major
Wood River Fire and Rescue	Jeff Nevins	Assistant Chief
Hailey Fire Department	Craig Aberbach	Chief
Blaine County Communications	Jacob Greenberg	
Gem State Communications	Steve Thiesen	
Ketchum Police Department	Steve Harkin	
Sun Valley Company	Mark Beelaert	
South Central Public Health District	Bob Erickson	
South Central Public Health District	Tammi Pearson	Planner
Sawtooth National Forest	Kelly Lewis	
American Red Cross	Dianna Ochsner	
American Red Cross	Chris Taylor	
USACE	Brandon Hobbs	
Blaine County Disaster Services	Chuck Turner	Coordinator

Blaine County
Local Emergency Planning Committee
Working together for a safer community

CT's Mailer

BLAINE COUNTY LEPC MTG
10:00AM, THURSDAY, MARCH 13, 2014
ELKHORN FIRE STATION, SUN VALLEY

WELCOME, INTRODUCTIONS

Handouts — Sandbags — Maps 100% SWE

T AND E UPDATE, DISCUSSION OF RECENT ACTIONS (Website info)

Nils + Nate

ALL HAZARD MITIGATION GRANT NEWS (FOR PLAN UPDATE)

(1) ACE workshop 8 of 34 (3) BHS Webinar
(2) Fire Webinar waiting until Flood

BRANDON HOBBS, ARMY CORPS OF ENGINEERS (USACE) WILL REPORT ON THE CORPS ACTIVITIES/STUDIES IN BLAINE COUNTY SINCE THE BEAVER CR. FIRE, INCLUDING A SITE VISIT/WORKSHOP HELP BLAINE COUNTY UNDERSTAND AND RECOGNIZE SOME POTENTIAL FLOOD/DEBRIS ISSUES IN SOME OF OUR WATERWAYS. HE CAN HELP US UNDERSTAND WHAT THE CORPS IS, WHAT IT CAN AND CAN'T DO, AS WELL AS INFORMATION ON WHAT TO EXPECT FROM THE CORPS WHEN WE DO MAKE USE OF THEIR SERVICES.

OTHER ITEMS FOR THE GOOD OF THE CAUSE.

NEXT MEETING IS THURSDAY, APRIL 10, 2014, WITH THE SAWTOOTH AVALANCHE CENTER AND NATIONAL WEATHER SERVICE PRESENTING.

Make sure you sign in.

Link Resources —

10:00 Am
Monday Nils

Blaine County
Local Emergency Planning Committee
Working together for a safer community

Meeting Minutes
March 13, 2014

Attendance: Ray Franco, Charlie Butterfield, SVFD; Stacy McLaughlin, WMFD; Nils Ribi, SV; Chris Corwin, BCEC; Mike Elle, Robbie Englehart, KFD; Eddie Patterson, ISA; Bart Lassman, Jeff Nevins; WRFR; Craig Aberbach, HFD; Jacob Greenberg, BCC; Steve Harkins, KPD; Mark Beelaert, SVCo; Bob Erickson, SCPHD; Walt Femling, SVPD; Gene Ramsey, BCSO; Tami Pearson, SCPHD; Kelly Lewis, Sawtooth NF; Diana Ochsner, Chris Taylor, Red Cross; Brandon Hobbs, USACE; Steve Theisen, Gem State Comm; Chuck Turner, LEPC. (Note: If you attended and didn't sign in, you won't be on this list.)

Welcome

T and E Committee Report

The requests for communication equipment must be in by April 15th. The website project is underway and items that are currently being worked on 1) protocol subcommittee members, 2) information from each agency (i.e. links, resources, pdfs of preparedness information) and 3) budget for development and hosting of website. Each agency can send their protocol subcommittee nominee's information and any other items for the website to Stacy McLaughlin, barbymagic@sunvalley.net. There will also be a Dropbox folder set up that anyone can have access to; just contact Stacy to be added.

Discussion Items

Brandon Hobbs, Army Corps of Engineers (USACE) reported on the recent activities and studies that Corp performed in Blaine County. He gave a presentation that explained what the Corp does, what it can and can't do and what services we could expect in the event of a flood. "All disasters start and end at the local level."

Other Items for the Good of the Cause

Salvation Army is hosting an Emergency Disaster Services Training on April 4 and 5, 2014 at their office (348 4th Ave N. Twin Falls). Register by 9am April 4th by calling 208-733-8720. A grant has been received to cover refreshments and any lodging that may be needed.

Handouts related to estimated hazard of a post-fire debris flow, basic sand bag information and flood site preparedness checklist were handed out; if anyone would like a copy contact Stacy McLaughlin. Ketchum has a sand bag filling truck if needed.

Recent webinars were hosting by South Central Health in relation to fire and BHS in relation to flood.

BHS purchased rain gauges for six sites. Check your flood insurance policy as there are limited on federal policies that may not cover the actual needs of the property owner.

Meeting adjourned at 11:40 a.m. Next meeting will be held April 10, 2014. Program will include Sawtooth Avalanche Center and National Weather Service presentations.

April 10, 2014

Waiting for the approval of the All Hazard Mitigation Grant; Blaine County was 1 of 3 counties awarded grant this year. We may begin our review process using 2013 SHSGP Funds.

Meeting Attendance Roster

Agency	Representative	Position
Bureau of Homeland Security	Gary Davis	Central Area Field Officer
Wood River Fire	Bart Lassman	Fire Chief
Sun Valley Police	Walt Flemling	Chief
Blaine County Sheriff's Office	Gene Ramsey	Sheriff
Sun Valley Fire Department	Ray Franco	Chief
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator LEPC Secretary
Lincoln County Emergency Services	Stacy McLaughlin	Coordinator
City of Sun Valley	Nils Ribi	Councilman
MRTA	Rod Demke	
Blaine County Emergency Communications	Chris Corwin	GIS
Ketchum Fire Department	Robbie Englehart	Fireman
Bellevue Fire Department	Greg Beaver	Chief
Salvation Army	Eddie Patterson	Major
Idaho State Police	Robert Storm	Captain
Sun Valley Water and Sewer District	Pat McMahon	
Wood River Fire and Rescue	Jeff Nevins	Assistant Chief
Blaine County	Jacob Greenberg	
Carey Fire District	Richard Kimball	Chief
Ketchum Police Department	Steve Harkin	
Sun Valley Company	Mark Beelaert	

Agency	Representative	Position
South Central Public Health District	Bob Erickson	
South Central Public Health District	Dan Schaffer	
Gem State Communications	Steve Theisen	
National Weather Service	Vernon Preston	Meteorologist
National Weather Service	Corey Loveland	Meteorologist
Sawtooth National Forest	Bill Murphy	Ranger
SAC	Simon Trautman	
Blaine County Disaster Services	Chuck Turner	Coordinator

CT's Master

Blaine County
Local Emergency Planning Committee
Working together for a safer community

AGENDA
BLAINE COUNTY LEPC MEETING
10:00AM, THURSDAY, APRIL 10, 2014
ELKHORN FIRE STATION, SVFD

WELCOME, INTRODUCTIONS

AHMG monies

T AND E REPORTS

WEBSITE COMMITTEE UPDATE
Sub committee Requests

SIMON TRAUTMAN—SAWTOOTH AVALANCHE CENTER—PURPOSE, ACTIVITIES, ANY INFORMATION FOR US

COREY LOVELAND, NWS, ANNUAL SPRING WEATHER FORECAST

ITEMS FOR THE GOOD OF THE CAUSE

Urban interface drill
(1) FMA Exercise April
(2) Report on TEEX class
(3) G191 EOC-ICS Interface

ADJOURNMENT

NEXT MEETING MAY 8TH.

Blaine County
Local Emergency Planning Committee
Working together for a safer community

Meeting Minutes
April 10, 2014

Attendance: Ray Franco, SVFD; Stacy McLaughlin, WMFD; Nils Ribi, SV; Chris Corwin, BCEC; Robbie Englehart, KFD; Eddie Patterson, ISA; Bart Lassman, Jeff Nevins; WRFR; Jacob Greenberg, BCC; Steve Harkins, KPD; Mark Beelaert, SVCo; Bob Erickson, Dan Schaffer, SCPHD; Walt Femling, SVPD; Gene Ramsey, BCSO; Steve Theisen, Gem State Comm; Gary Davis, BHS; Vernon Preston, Corey Loveland, NWS; Rod Domke, MRTA; Bill Murphy, SNF; Greg Beaver, BFD; Robert Storm, ISP; Simon Trautman, SAC; Pat McMahon, SVWSD; Chuck Turner, LEPC. (Note: If you attended and didn't sign in, you won't be on this list.)

Welcome & Introductions

T&E Committee Report
Waiting for approval of AHMG; we are 1 of 3 to be awarded. 2011 & 2012 monies have been spent. We are now working on 2013 budget.

Website Committee Update
A website designer has been hired and the subcommittee will be reviewing the website layout to be added to the initial design. Please understand this website and social media sites will not replace any agencies' websites that are currently in place; the subcommittee would like to link to other sites as well as have our site as a link on their website. Each agency/jurisdiction is being asked to provide a contact person for preparedness information for the website as well as a person to serve on the content and/or protocol committee; this can be the same person if the agency/jurisdiction deems appropriate. Please provide contact information to Stacy at barbymagic@sunvalley.net. Stacy will be in contact with each jurisdiction for those contact names as well as working with them to get links to other websites, content information etc.

Presentations
Simon Trautman, Sawtooth Avalanche Center, discussed its purpose, their activities and general information about their website. Simon said feedback from people 'in the field' is very helpful to their efforts.

Corey Loveland, NWS, discussed the annual spring weather forecast. Vern Preston distributed a small Weather Information handout which contained the following information: National Weather Service (www.weather.gov), Idaho (www.weather.gov/pocatello or www.weather.gov/boise), Facebook (US National Weather Service Pocatello), Twitter (@NWSPocatello) and YouTube (www.youtube.com/user/NWSPocatello).

Items Good for the Cause
The recent PIO class was well received.

Upcoming drills ~ April 29th, EOC/ICS Interface Workshop, May 21st Pandemic Incident Focus Table Top, June 7th Airport Drill, June 14th Urban Interface Drill, June 18th Aircraft Crash Focus – Virtual Tabletop Exercise Series, and June 21st Firefighter Appreciation Day.

Army Corp did a survey in February 2013 regarding current/potential flooding. If you would like a copy of the abbreviated statements/suggestions contact Chuck Turner.

Meeting adjourned at 11:48 a.m. Next meeting will be held May 8, 2014.

September 11, 2014

Rick Fawcett, Whisper Mountain, gave a presentation of Central Area Hazardous Material Flow Study and an update on the AHMG. The Flow Study was funded through a HMEP Grant and included eight (8) counties. If anyone is interested in a pdf of the presentation please contact Stacy McLaughlin.

Meeting Attendance Roster

Agency	Representative	Position
Bureau of Homeland Security	Gary Davis	Central Area Field Officer
Wood River Fire	Bart Lassman	Fire Chief
Sun Valley Police	Walt Flemling	Chief
Blaine County Sheriff's Office	Gene Ramsey	Sheriff
Sun Valley Fire Department	Ray Franco	Chief
Lincoln County Emergency Services/Blaine County LEPC	Stacy McLaughlin	Coordinator LEPC Secretary
City of Sun Valley	Nils Ribi	Councilman
Ketchum Fire Department	Robbie Englehart	Fireman
Ketchum Fire	Mike Elle	Fire Chief
Bellevue Fire Department	Greg Beaver	Chief
Salvation Army	Eddie Patterson	Major
Idaho State Police	Robert Storm	Captain
Wood River Fire and Rescue	Jeff Nevins	Assistant Chief
Blaine County	Jacob Greenberg	
Carey Fire District	Richard Kimball	Chief
Blaine County Sheriff's Office	Steve Harkin	
South Central Public Health District	Bob Erickson	

Agency	Representative	Position
South Central Public Health District	Tami Pearson	Planner
Gem State Communications	Steve Theisen	
Blaine County Emergency Communications	Robin Sellers	
Blaine County Disaster Services	Chuck Turner	Coordinator
BHS	General Brad Richey	Director
Blaine County Sheriff's Office	Tito Rivera	
Hailey Fire Department	Craig Aberbach	Chief
Hailey Police Department	Dave Stellers	
Blaine County Building Department	Bill Dyer	Building Official
Blaine County Planning and Zoning	Tom Bergin	Administrator
Sun Valley Fire Department	Taan Robrhan	
Sun Valley Fire Department	Reid Black	

Blaine County
Local Emergency Planning Committee
Working together for a safer community

AGENDA
BLAINE COUNTY LEPC MEETING
10:00AM, THURSDAY, 9/11, 2014
ELKHORN FIRE STATION, SUN VALLEY

WELCOME AND INTRODUCTIONS

T and E COMMITTEE UPDATE

WEBSITE UPDATE

RICK FAWCETT, WHISPER MOUNTAIN, Ltd. PRESENTATION OF CENTRAL AREA HAZARDOUS MATERIALS FLOW STUDY and AHMG UPDATE

BRIG. GENERAL BRAD RICHY, DIRECTOR OF IDAHO BUREAU OF HOMELAND SECURITY. GEN. RICHY WILL ADDRESS THE ANNIVERSARY OF 9/11/2001 EVENTS, AS WELL AS OVERVIEW OF CURRENT HOMELAND SECURITY ACTIVIES, BOTH NATIONALLY AND LOCALLY.

OTHER ITEMS FOR THE GOOD OF THE CAUSE.

ADJOURNMENT

NEXT MEETING OCTOBER 9TH, 2014. PROGRAM FEATURES THE 101ST CST, IDNG.

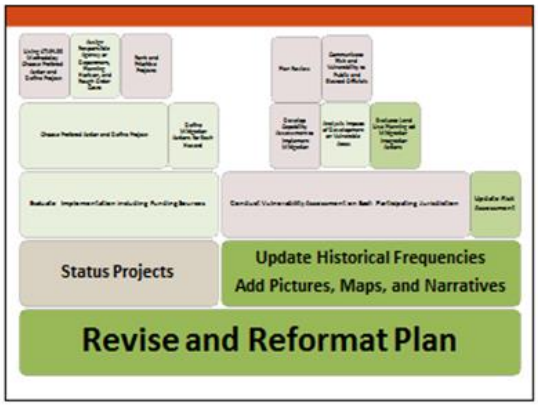
Mitigation Actions

Project	Rank
Protect Engineered River Channel west of Blackfoot's Jensen Grove.	H
Participate in the Update the Bingham County Hazardous Materials Flow Study	M
Map Floodplain and Flood Prone Areas in the City of Blackfoot	M
Harden the City computer equipment and records storage.	M
Identify Evacuation Shelters Equipped with Emergency Generators.	L
Seek CRS Status for the City	L
Develop Ordinance to Manage Storm Water in Subdivisions	L
Place remaining hardware on the City Library Shelves. Place remaining bars or trim along the front of the book shelves.	L
Designate the WUI areas as a special land use category in the County Comprehensive Plan	L
Harden city water supply against damage from Earthquakes.	L
Harden city sewer system against damage from earthquakes.	L

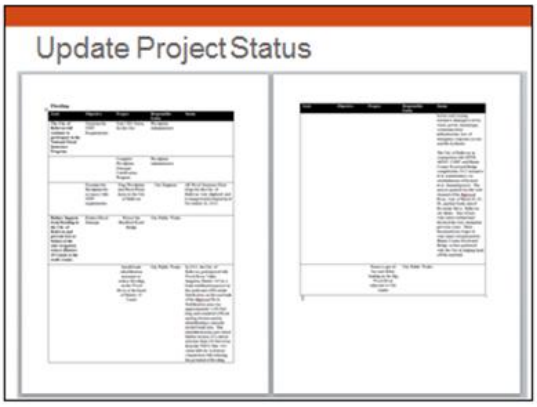
Example – City of Blackfoot

Key Steps

- Complete Project Status – County and Cities
- Update Risk Assessment – WM
- Complete Vulnerability Assessment – WM
- Identify Mitigation Actions – County and Cities
- Rank and Prioritize Mitigation Actions – ALL
- Provide to Public for Comments – ALL



Update Project Status



Emailed Video Instructions

http://www.screencast.com/t/pfcaiUFkEh8E

Vulnerability Assessment

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Wildfire	3	4	3	3	4	17	H
River Flooding	3	4	3	3	4	17	H
Severe Winter Storms	3	4	3	4	2	16	H
Hazardous Materials	3	4	2	2	4	15	H
Flash Flooding	3	4	2	2	3	14	M
Drought	2	4	3	3	2	14	M
Severe Weather	3	4	2	2	2	13	M
Structure Fire	3	4	1	1	4	13	M
Communicable Disease	1	2	4	3	3	13	M
Dam Failure	1	1	4	3	4	13	M
WUI Bad Fire	0	1	4	4	4	13	M
Nuclear Event	0	1	4	4	4	13	M
Wind Ash Venus	3	4	1	1	3	12	M
Earthquake	2	4	1	4	1	12	M
Tornadoes	0	1	3	2	4	10	L
Landslides	0	1	2	1	2	6	L
Riot Demonstration Civil Disobedience	0	1	2	1	2	6	L
Avalanche	0	1	1	1	1	4	L

Example – City of Blackfoot

Official Use Only

Blaine County, Idaho
Local Emergency Planning Committee

Working together for a safer community

www.BlaineEmergency.org

Meeting Minutes
November 13, 2014

Attendance: Stacy McLaughlin, WMFD; Robbie Englehart, KFD; Robin Stellers, BCEC; Gary Davis, IBHS; Gene Ramsey, BCSO; Mike Crawford, SVPD; Bob Erickson, SCPHD; Steve Theisen; Motorola; Chad Moffet, BME; Bart Lassman, WRFR; Craig Aberbach, HFD; Dan Schaffer, SCPHD; Nils Rib; LEPC; Michelle Erdie, Sawtooth Forest; Ray Franco, SVFD; Steve Hayward, Autumn Roberts, IBHS; Diana Ochsner, Red Cross; Eddie Patterson, Salvation Army; John Blackman, BC School, ; Chuck Turner, LEPC. (Note: If you attended and didn't sign in, you won't be on this list.)

Welcome & Introductions

T&E Committee Report
2013 is continuing to fund the website; looking at projects for 2014 and 2015 we will need to submit projects that focus on the mission areas and core capabilities.

Website Update
We are continuing to post information under Current Situation, protocol is complete and those that have completed sign up form have been added to site.

Meeting Presentation
Diana Ochsner, Red Cross, gave an update on the current status of the Red Cross. Idaho and Montana are merging, Chris Taylor is now in Idaho Falls and volunteers are in northern and southern Idaho for community events and incident response. Boise is still the main contact.

Autumn Roberts, Idaho Bureau of Homeland Security, gave a presentation of the grant project/proposal prioritization which will be used for grant year 2015. Chuck will send a survey monkey to all stakeholders. Things to keep in mind; sustain would be the website and build would be communications.

Steve Hayward, Idaho Bureau of Homeland Security, gave a presentation of the Idaho Exercise Program Toolkit. Anyone is welcome to use the toolkit for their training and exercise; Chuck has copies of the information on the cd if anyone is interested. The Emergency Managers are expected to participate in three (3) exercises a year and there should be one (1) jurisdictional exercise a year.

Other Items Good for the Cause
Ebola Update - Bart Lassman has been in contact with Commissioner Greenberg and the local fire chiefs are working on SOG which is based on the latest from the CDC and St Lukes Wood River. The fire chiefs will meet with the county commissioners to discuss equipment needs and requirements, identify items from the HazMat trailer, an ambulance and team of volunteers will be dedicated to this effort . They hope to have everything in place early 2015.

There will be meeting regarding the AHMP on November 20th 10 am at the PSF.

Winter Weather Briefing is being conducting on Monday and Thursday each week at 0830.

Meeting adjourned at 11:45 a.m. Next meeting will be held December 11th (AHMP Presentation).

November 20, 2014

The LEPC identified a subcommittee comprised or representatives from the participating jurisdictions public works, floodplain management, and planning and zoning to review several studies provided over the past five years by Federal Agencies as technical support to Blaine County.

The following federal technical assistance reports were reviewed by the Committee with a goal of adding appropriate mitigation actions to the Plan. Some of the actions proposed have been completed, some added as future mitigation actions and others are still under consideration by the Committee for inclusion.

- Technical Assistance Report Concerning Post Wildfire Flood Potential in Blaine County
- Burned-Area Report – Beaver Creek Fire Sawtooth National Forest Ketchum and Fairfield Ranger Districts, Blaine and Camas Counties, Idaho
- Discovery Report, Big Wood River Watershed, Idaho
- Flood Risk Report – Fore the Big Wood Watershed
- Post-Fire Debris-Flow Hazard Assessment of the Area Burned by the 2013 Beaver Creek Fire near Hailey, Central Idaho
- Alluvial Fan Mapping and Risk Assessment for the Big Wood River Valley

The subcommittee chose to use the STAPLEE Method, suggested by FEMA's Mitigation Planning How to Guides to complete the analysis process. The members of the subcommittee represented those departments who understand a wide range of the issues, i.e., social, technical, political, economic, etc. and score the alternatives using a weighted, (as suggested in the how to guide) STAPLEE Criteria. The Criteria is presented below.

STAPLEE Criteria	**S** (Social)	**T** (Technical)	**A** (Administrative)	**P** (Political)	**L** (Legal)	**E** (Economic)	**E** (Environmental)
Considerations → for Alternative Actions ↓	• Community Acceptance • Effect on Segment of Population	• Technical Feasibility • Long-term Solution • Secondary Impacts	• Staffing • Funding Allocated • Maintenance/ Operations	• Political Support • Local Champion • Public Support	• State Authority • Existing Local Authority • Potential Legal Challenge	• Benefit of Action • Cost of Action • Contributes to Economic Goals • Outside Funding Required	• Effect on Land/ Water • Effect on Endangered Species • Effect on HAZMAT/ Waste Sites • Consistent with Community Environmental Goals • Consistent with Federal Laws
Weighted Score	1X	2.5X	1.5X	1X	1X	2X	1.5X
STAPLEE Criteria	**S** (Social)	**T** (Technical)	**A** (Administrative)	**P** (Political)	**L** (Legal)	**E** (Economic)	**E** (Environmental)

On November 20, 2014 the subcommittee met and began analyzing mitigation action alternative using the STAPLEE method. Following the subcommittee's analysis and selection of new projects the LEPC then gave each a ranking of High (H), Medium (M), or Low (L) to each project.

The members of the subcommittee are listed below.

Agency	Representative	Position
Blaine County Road and Bridge	Tom Duffy	Manager
City of Ketchum	Robyn Mattison	Public Works / CE
City of Hailey	Kristine Hilt	CFM
City of Hailey	Heather Dawson	City Administrator
Blaine County Commissioner	Angenie McCleary	Commissioner
City of Ketchum	Rebecca Bundy	St. Planner
Blaine County	Chris Corwin	GIS

Additional participation was provided in the process by the following electronically:

Agency	Representative	Position
City of Sun Valley	Mark Hoffman	Community Development Director

City of Sun Valley	Walt Flemling	Chief of Police
City of Bellevue	Craig Eccles	Administrator
City of Carey	Brandi Hennefer	Planning and Zoning
Blaine County	Bill Dyer	Building Official
Sun Valley Sewer and Water District	Pat McMahon	

The following is the email that was sent to those that could not participate on November 20, 2014.

To pandzadmin, bdyer, ceckles, pat, tbergin, wfemling, cnelson, mhofman

We are requesting, on behalf of Chuck Turner, Blaine County Disaster Services, your participation in developing mitigation projects which will be added to the 2014 update of the Blaine County Multi-Jurisdiction All Hazard Mitigation Plan. Each participating jurisdiction is required to have a least one project for each of the high ranked hazards in their communities risk assessments. I have developed a short video - about 15 minutes, which explains this process for those that were not able to come to the training we conducted on November 20th.

Please watch the video captured at the following link. http://www.screencast.com/t/0l0Y2boC

I have also attached the listing of projects from the 2009 plan which we need status on as well as worksheets that can be used to develop and choose new projects.

For those jurisdictions in the Big Wood drainage of the county there are several studies which have been done by Federal Agencies which we would ask that you review to see if there is any applicable projects which have been recommended that you would like us to add. Chuck has sent these reports to your previously. I have attached a short summary of those studies. If you need copies please let us know.

Many of your have already provided status on existing projects which we have entered into the Plan update. We thank you for that effort. The task before us is to do a bit more work to define projects which address the high ranked hazards. All jurisdictions need to develop projects that address Drought for example. Others are identified in the video.

Please call me if you have any issues, questions, concerns, or problems with these tasks or the materials provided. We would ask that the projects be provided to us by December 9th. I will personally follow up with each of you next week to see if I can assist.

Kind Regards,

Rick Fawcett

Blaine County
AHMP Project Meeting
November 20, 2014

Agency	Representative	Position	Phone	Email
BCRB	TOM DUFFY	MGR	720 7502	tduffy@co.blaine.id.us
Ketchum	Robyn Mathison	PWD/CE	726-7825	rmathison@ketchumidaho.org
Hailey	Kristine Hitt	CFM	788-9815	kristine.hitt@haileycityhall.org
Hailey	Heather Dawson	Admin	788-4221 x 18	heather.dawson@haileycityhall.or
TWIN FALLS CO.	TOM BERGIN	LAND USE	733-5570	TBERGIN@co.blaine.id.us
BC	Angenie McCleary	Commissioner	788-5500	amccleary@co.blaine.id.us
Ketchum	Rebecca Bundy	Sr. Planner	727-5002	rbundy@ketchumidaho.org
Blaine County	Chris Corwin	GIS	578-3827	ccorwin@co.blaine.id.us

Blaine County Multi-Jurisdiction All Hazard Mitigation Planning

Developing Mitigation Projects

Developing Mitigation Actions

- Examine the Hazard
  - Define the Goal
    - Establish Measureable Objectives
      - Define Alternatives which meet the objectives
        - Identify Project
          - Assign Responsibility – Who is responsible for action!

Which Hazards to Address

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Severe Winter Storm	3	4	3	4	3	27	H
Drought	3	4	3	4	3	30	H
Flood (Flooding)	3	4	3	3	3	30	H
Wildfire	3	4	3	3	3	30	H
Hazardous Materials	3	4	3	3	3	34	M
Communicable Disease	1	3	3	4	4	34	M
Flash Flooding	3	4	3	3	3	34	M
Severe Weather	3	4	3	3	3	34	M
Landslide	3	4	3	3	3	33	M
Avalanche	3	4	3	3	3	33	M
Structure Fire	3	4	3	1	3	33	M
Earthquake	3	3	3	3	3	33	M
Terrorism	0	3	3	3	4	33	M
Vector Borne Disease	1	1	3	3	3	9	L
Nuisance Insect	0	1	3	3	3	9	L
Dam Failure	0	1	1	1	1	4	L
Fish Disease/Invasive Species	0	1	1	1	1	4	L

Integration of Other Studies and Plans

- Technical Assistance Report Concerning Post Wildfire Flood Potential in Blaine County
- Burned-Area Report – Beaver Creek Fire Sawtooth National Forest Ketchum and Fairfield Ranger Districts, Blaine and Camas Counties, Idaho
- Discovery Report, Big Wood River Watershed, Idaho
- Flood Risk Report – Fore the Big Wood Watershed
- Post-Fire Debris-Flow Hazard Assessment of the Area Burned by the 2013 Beaver Creek Fire near Hailey, Central Idaho
- Alluvial Fan Mapping and Risk Assessment for the Big Wood River Valley

Review Study and Plans

Define Projects – Using Alternative Approach

STARLEE Criteria	S (Social)	T (Technical)	A (Administrative)	R (Political)	L (Legal)	E (Economic)	E (Environmental)
Considerations for Alternative Actions	Community Acceptance Does it meet support of Population	Is it technically feasible Does it solve the problem Consider Secondary Impacts	Ability, desired Staffing, Administrative Capabilities of Agencies	Political Support Local Elections Public Support	Does it violate Federal, State, Local Laws Potential Legal Challenge	Benefit of action Cost of action Is it cost effective (Benefits > Costs) Is it worth doing, Funded	Does it protect Natural Resources Does it affect Cultural Resources Does it affect Threatened / Endangered Species Does it affect Wetlands Does it affect Floodplains Does it affect Water Quality Improvement / Lab Does it violate Federal Law
Weighted Score	1.00	1.00	1.00	1.00	1.00	1.00	1.00
STARLEE Criteria	S (Social)	T (Technical)	A (Administrative)	R (Political)	L (Legal)	E (Economic)	E (Environmental)

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Example – Define Projects

STAPLEE Criteria	C (Social)	T (Technical)	A (Administrative)	P (Political)	L (Legal)	E (Economic)	E (Environmental)	
Considerations: 4 for Alternative Actions 4	Community Acceptance Effect on segment of population	Technical Feasibility Long-term Effectiveness Secondary Impacts	Staffing Funding, administrative capability Maintenance of protection	Political support Public Support Local Champion	Statutory authority to implement project Potential Liability/Authority	Benefit of action Cost of action Economic Impacts, Job creation/retaining, Regional	Effect on natural/cultural resources Effect on endangered species Effect on air/water/ Consistent with community environmental goals Consistent with local land use	
Weighted Score	20	1.00	1.00	20	20	20	1.00	
STAPLEE Criteria	C (Social)	T (Technical)	A (Administrative)	P (Political)	L (Legal)	E (Economic)	E (Environmental)	
Mitigate Drought in the City of Carey								
Develop a Drought Preparedness Plan	3	12.0	1.0	8	1	6	8	80
Inf. Alternate Water Sources	8	12.0	0.5	8	3	10	8	67
Develop a Drought Water Source	3	7.0	1	3	3	8	7.0	80

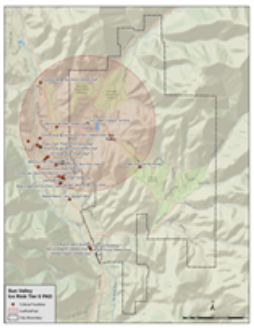
High Risk Hazard vs. Projects

City of Sun Valley

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Wildfire	3	4	4	3	4	18	H
Severe Winter Storms	3	4	3	4	3	17	H
Drought	3	4	4	4	2	17	H
Hazardous Materials	3	4	3	3	3	16	H
Communicable Disease	3	2	3	4	4	16	M
Flash Flooding	3	4	3	2	2	14	M
Severe Weather	3	4	2	2	3	14	M
Landslides	3	4	3	2	2	14	M
Avalanche	3	4	2	2	3	14	M
Structure Fire	3	4	2	1	2	12	M
Earthquake	2	3	3	2	2	12	M
Terrorism	0	2	3	3	4	12	M
Civil Disobedience	1	2	2	2	3	10	L
Vector Borne Disease	1	1	2	2	2	8	L
River Flooding	1	2	1	1	1	6	L
Dam Failure	0	1	1	1	1	4	L
Nuclear Event	0	1	1	1	1	4	L

- Severe Winter Weather
- Hazardous Materials
- Wildfire
- Drought

Sun Valley – Hazardous Materials



High Risk Hazard vs. Projects

City of Carey

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Severe Winter Storms	3	4	3	4	3	17	H
Drought	3	4	4	3	3	16	H
River Flooding	3	4	3	3	3	16	H
Wildfire	3	4	3	3	3	16	H
Hazardous Materials	3	4	3	3	3	16	M
Communicable Disease	3	3	3	4	4	16	M
Flash Flooding	3	4	3	3	3	16	M
Severe Weather	3	4	3	3	3	16	M
Landslides	3	4	3	3	3	16	M
Avalanche	3	4	3	3	3	16	M
Structure Fire	3	4	3	3	3	16	M
Earthquake	3	3	3	3	3	15	M
Terrorism	3	3	3	3	3	15	M
Vector Borne Disease	1	1	2	2	2	8	L
Nuclear Event	0	1	1	1	1	4	L
Dam Failure	0	1	1	1	1	4	L
Civil Disobedience	0	1	1	1	1	4	L

- Severe Winter Weather
- Flooding
- Wildfire
- Drought

High Risk Hazard vs. Projects

City of Bellevue

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Severe Winter Storms	3	4	3	4	3	17	H
Drought	3	4	3	4	3	16	H
River Flooding	3	4	3	3	3	16	H
Wildfire	3	4	3	3	3	16	H
Hazardous Materials	3	4	3	3	3	16	M
Communicable Disease	3	3	3	4	4	16	M
Flash Flooding	3	4	3	3	3	16	M
Severe Weather	3	4	3	3	3	16	M
Landslides	3	4	3	3	3	16	M
Avalanche	3	4	3	3	3	16	M
Structure Fire	3	4	3	3	3	16	M
Earthquake	3	3	3	3	3	15	M
Terrorism	3	3	3	3	3	15	M
Vector Borne Disease	1	1	2	2	2	8	L
Nuclear Event	0	1	1	1	1	4	L
Dam Failure	0	1	1	1	1	4	L
Civil Disobedience	0	1	1	1	1	4	L

- Severe Winter Weather
- Flooding
- Wildfire
- Drought

For Assistance

- Contact Rick Fawcett 208-241-1664
- rick.whispermountain@gmail.com
- Submit Projects by December 9, 2014

Blaine County
Local Emergency Planning Committee
Working together for a safer community

AGENDA
BLAINE COUNTY LEPC MTG
10:00AM, THURSDAY, DECEMBER 11, 2014
ELKHORN FIRE STATION, S.V.

WELCOME, INTRODUCTIONS

GRANT INFORMATION (INCLUDING 2015 PROJECT PROCESS)

WEBSITE UPDATE

SURVEY INFORMATION

PROGRAM: AHMP, GRANT APPLICATION PROCESS REPORT FROM RICK FAWCETT.

At the December 11th LEPC we will present the Risk Assessment - Risk Rankings for Blaine County and the Participating Cities including the process to arrive at the Risk Rankings. We will also review the projects that have been added or moved forward from the 2009 plan and request the LEPC members to complete a simple ranking form which ranks the projects with a High, Medium, or Low score. Following the meeting we will compile the scores on the individual projects and get a composite ranking for total projects.

FOLKS, AS YOU CAN SEE FROM THE ABOVE INFORMATION, THIS MEETING WILL PLAY AND IMPORTANT ROLE IN THE UPDATE OF OUR AHMP, WHICH IS AN IMPORTANT INSTRUMENT IN THE FEMA EMERGENCY AND MITIGATION GRANT PROCESS. PLEASE PLAN TO ATTEND OR ARRANGE TO HAVE A REPRESENTATIVE ATTEND. NOTE: THOSE OF YOU WHO HAVE BEEN INVOLVED IN THE UPDATE PROCESS WILL RECOGNIZE THE TERMS AND PROCESSES MENTIONED ABOVE.

OTHER ITEMS FOR THE GOOD OF THE CAUSE.

ADJOURNMENT

NEXT MEETING JANUARY 8TH 2015

Blaine County, Idaho
Local Emergency Planning Committee

Working together for a safer community

www.BlaineEmergency.org

Meeting Minutes
December 11, 2014

Attendance: Stacy McLaughlin, WMFD; Chris Corwin, BCEC; Walt Femling, SVPD; Steve Theisen; Motorola; Bart Lassman, WRFR; Craig Aberbach, HFD; Dan Schaffer, SCPHD; Nils Ribi; LEPC; Ray Franco, Reid Black, SVFD; Eddie Patterson, Salvation Army; Kristine Hilt (City of Hailey), Jacob Greenburg, BC Comm; Mark Beelaert, SVCo; Matt Filbert, USFS; Tom Bergin, Blaine Co; Rick and Shanna Fawcett, Whisper Mountain; Chuck Turner, LEPC. (Note: If you attended and didn't sign in, you won't be on this list.)

Welcome & Introductions

Grant Information

The grants are progressing; still looking for projects for 2014 and 2015.

Website Update

The AHMP has been added for review on the site. We have begun some advertising with wind chill cards that have the website information on the back.

Survey Information

Thank you to those who completed the survey monkey in regards to prioritization. 21 were sent with 9 complete responses = 33% return. The results have been turned into the state for review and processing.

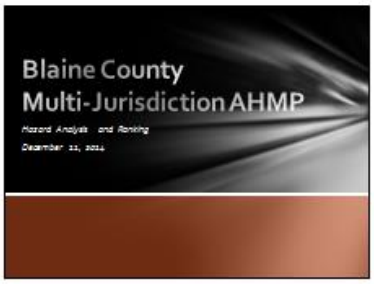
Meeting Presentation

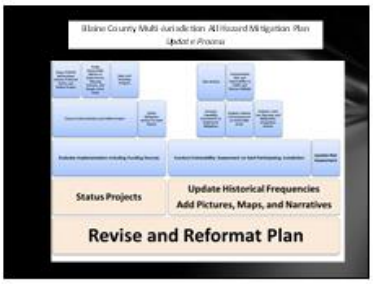
Rick Fawcett, Whisper Mountain, reviewed the latest information for the AHMP which was part of the FEMA Emergency and Mitigation Grant Process. Please review the plan that has been placed on www.blaineemergency.org, any changes that need to be made, make note of the page number and give all comments to Chuck by Friday, December 19th.

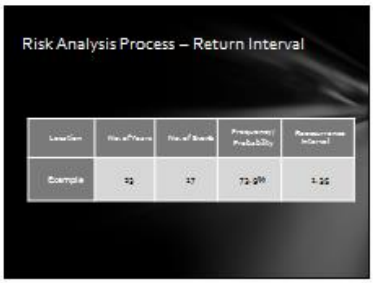
Rick discussed that 101 projects were submitted in the 2009 plan and 61 of those were completed; this shows good planning and coordination. So far 94 projects have been submitted for the 2014 update. If projects are completed after the plan is submitted please note those to Chuck. It is important to review and update the plan once a year.

Each profile category has the following hazard analysis (Historical Occurrence, Probability, Vulnerability, Spatial Extent and Magnitude) and each hazard has 5 scores. Consider adding power outage as an economical loss which has great impact to the county. For each high ranking hazard per FEMA requirement there must be at least one project per each jurisdiction.

Meeting adjourned at 11:45 a.m. Next meeting will be held January 8, 2015.


Blaine County
Multi-Jurisdiction AHMP
Hazard Analysis and Ranking
December 11, 2014


Blaine County Multi-Jurisdiction All Hazard Mitigation Plan
Update Process
Status Projects
Update Historical Frequencies
Add Pictures, Maps, and Narratives
Revise and Reformat Plan


Risk Analysis Process – Return Interval
Example

Hazard Analysis Scoring
Historical Occurrence
Probability

Hazard Analysis Scoring
Vulnerability
Spatial Extent

Hazard Analysis Scoring
Magnitude

Individual Hazard Scoring
Extreme Cold
Profile Category
Rating
Description
Historical Occurrence
2
High
Probability
4
High
Vulnerability
3
Critical
Spatial Extent
4
Catastrophic
Magnitude
3
Critical
Total
17
High

Hazard Analysis Ranking
Example

Hazards Examined
Weather:
Drought
Severe Weather
Extreme Heat
Lightning
Hail
Tornado
Straight Line Wind
Severe Winter Weather
Extreme Cold
Severe Winter Storm
Flooding:
Flash Flooding
River Flooding
Dam Failure
Geologic:
Earthquake
Landslide/Mudslide
Snow Avalanche
Other:
Wildfire
Vector Borne Disease
West Nile
Bird Flu
Communicable Disease
SARS
Swine Flu
Technological (Manmade) Hazards:
Structural Fire
Hazardous Material
Riot (Demonstration)
Civil Disorder
Terrorism

Drought

Location	No. of Years	No. of Events	Return Interval
Blaine County	27	14	2.0 Years

Drought

Declarations -
- April 14, 2010
- July 16, 2012
- May 14, 2013
- April 14, 2014

Drought		
Profile Category	Rating	Description
Historical Occurrence	3	High
Probability	4	High
Vulnerability	4	Catastrophic
Spatial Extent	4	Catastrophic
Magnitude	2	Limited
Total	17	High

Extreme Heat

Extreme Heat		
Profile Category	Rating	Description
Historical Occurrence	0	Never
Probability	1	Rare
Vulnerability	1	Negligible
Spatial Extent	1	Negligible
Magnitude	1	Negligible
Total	4	Low

Lightning

Lightning		
Profile Category	Rating	Description
Historical Occurrence	3	High
Probability	4	High
Vulnerability	3	Limited
Spatial Extent	1	Negligible
Magnitude	3	Critical
Total	13	Medium

Hail

Hail		
Profile Category	Rating	Description
Historical Occurrence	3	Medium
Probability	4	High
Vulnerability	2	Limited
Spatial Extent	1	Negligible
Magnitude	1	Negligible
Total	10	Low

Tornado

Thunderstorms	16	7	3.7 Years

Tornado		
Profile Category	Rating	Description
Historical Occurrence	2	Medium
Probability	3	Medium
Vulnerability	1	Negligible
Spatial Extent	1	Negligible
Magnitude	3	Critical
Total	10	Low

Straight Line Wind

Straight Line Wind			
Cause	Number of Years	Number of Events	Return Interval
Wind	54	83	0.65 Years

Straight Line Wind		
Profile Category	Rating	Description
Historical Occurrence	3	High
Probability	4	High
Vulnerability	3	Critical
Spatial Extent	3	Critical
Magnitude	3	Critical
Total	16	High

Severe Weather

Hazard	Historical Occurrence	Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Extreme Heat	0	1	1	1	1	4	L
Lightning	3	4	2	1	3	13	M
Hail	3	4	2	1	1	10	L
Tornado	2	3	1	1	3	10	L
Straight Line Wind	3	4	3	3	3	16	H
Composite Ranking							
Severe Weather	3	4	2	2	3	14	M

Extreme Cold

Location	No. of Years	No. of Events	Frequency
Ketchum	5	105	0.05 years or 21 days/year below 10 degree F.

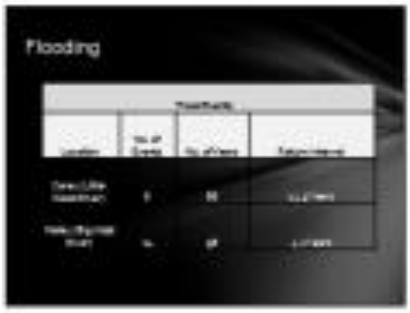
Significant Cold Events	Date
Cold/wind Chill	12/6/2005
Extreme Cold/Wind Chill	3/1/2011
Severe Winter Storm	1/10/2013

Extreme Cold

Winter Storm

Severe Winter Storms

Flooding


Flooding

Flooding

Flash Flooding

Flash Flooding

Flash Flooding

Flash Flooding

Dam Failure

Dam Failure

Earthquake

Earthquake

Earthquake

Landslides/Mudslides

Landslides/Mudslides

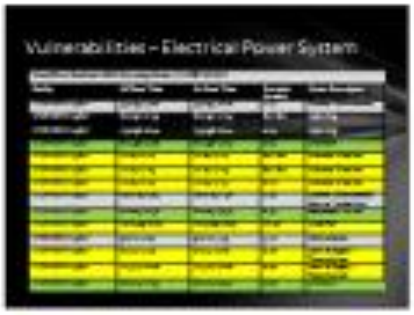
Snow Avalanche

Wildfire

Wildfire

Hazardous
Materials

Hazardous Materials


Vulnerabilities – Electrical Power System

Vulnerabilities – Electrical Power System

Hazard Severity Ranking

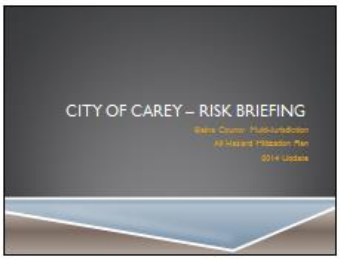
Mitigation Projects

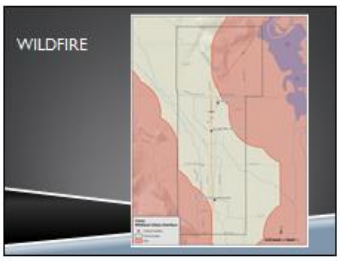
Project Scoring –

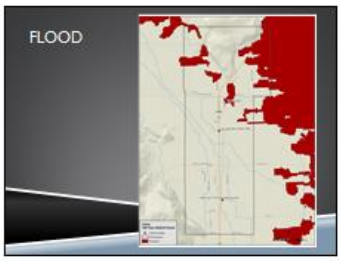
Next Steps

City of Carey Risk Briefing Video

The City of Carey was provided an Elected Officials/Appointed Officials Video briefing on December 15, 2015. The Video was distributed to the elected and appointed officials for private viewing and discussed at the City Council Meeting on December 16, 2014.





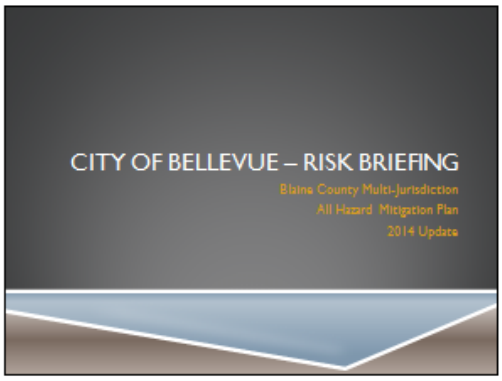


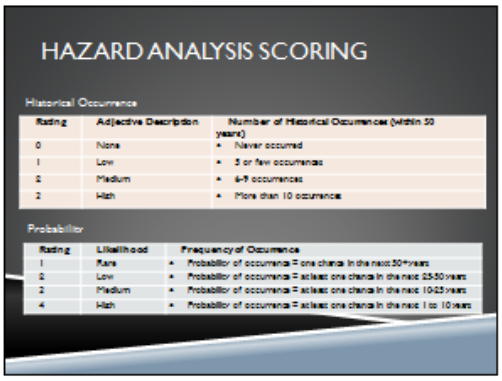
City of Carey
Risk Ranking Video
Viewing Log

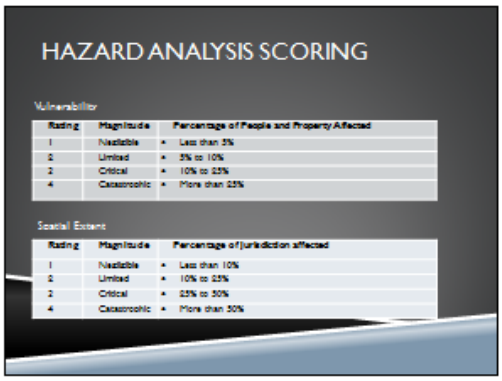
Agency	Representative	Position	Phone	Email
City of Carey	Brandi Hennefer	Planning + Zoning Administrators	208-720-9981	
City of Carey	Joe Dilworth	Building Inspector	208-720-1347	
City of Carey	Tess Cenarrusa	City Clerk	208-309-1445	
City of Carey	Richard Kimball	Public Works/Fire	208-720-2076	
City of Carey	Allen Fivers	City Council	(208) 481-2382	
City of Carey	Randy Patterson	Mayor	208-309-1701	
City of Carey	Annie Olsen	City Council	208-309-2180	
City of Carey	George Vosis	City counsil	208-720-3931	

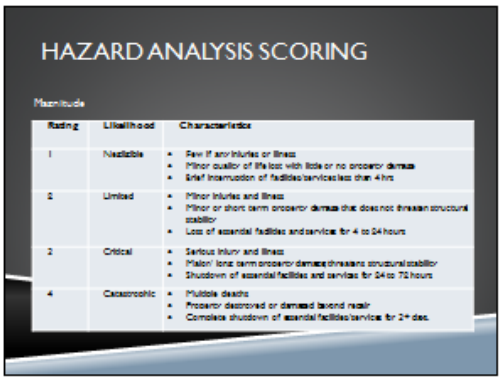
City of Bellevue Risk Briefing Video

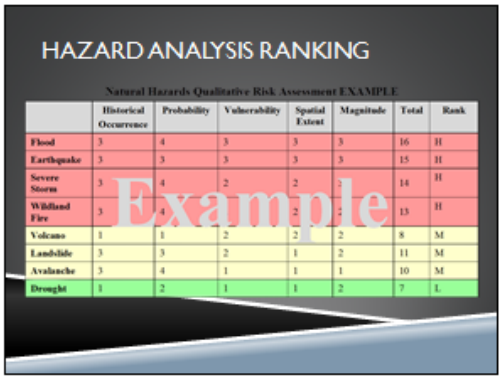
The City of Bellevue was provided an Elected Officials/Appointed Officials Video briefing on December 15, 2015. The Video was distributed to the elected and appointed officials for private viewing and discussed at the City Council Meeting.

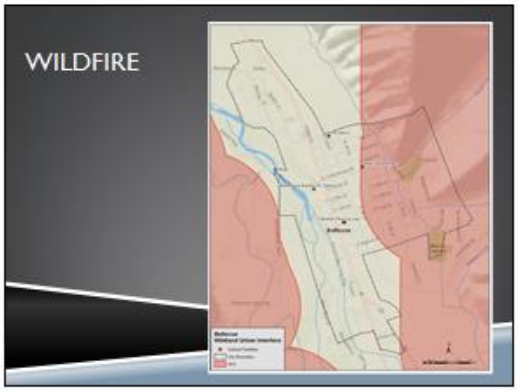


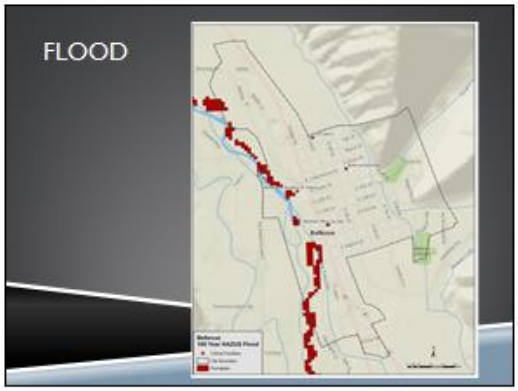


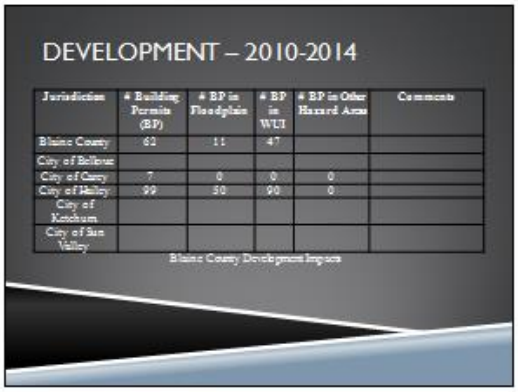


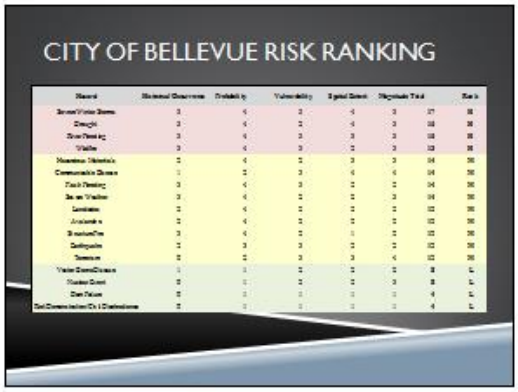





WILDFIRE


FLOOD


DEVELOPMENT – 2010-2014
Jurisdiction
Building Permits (BP)
BP in Floodplain
BP in WUI
BP in Other Hazard Area
Comments
Blaine County
62
11
47
City of Bellevue
City of Carey
7
0
0
0
City of Hailey
99
50
90
0
City of Ketchum
City of Sun Valley
Blaine County Development Impacts

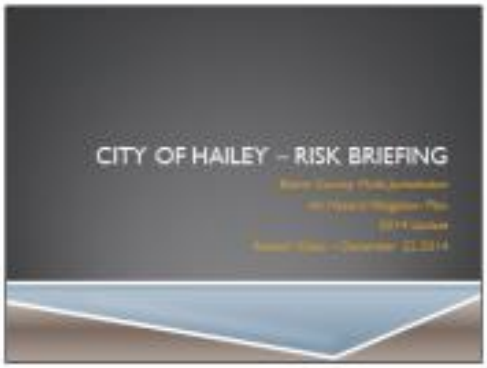

CITY OF BELLEVUE RISK RANKING

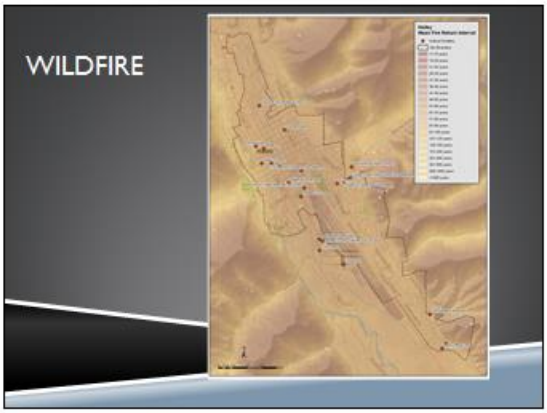
City of Bellevue
Risk Ranking Video
Viewing Log

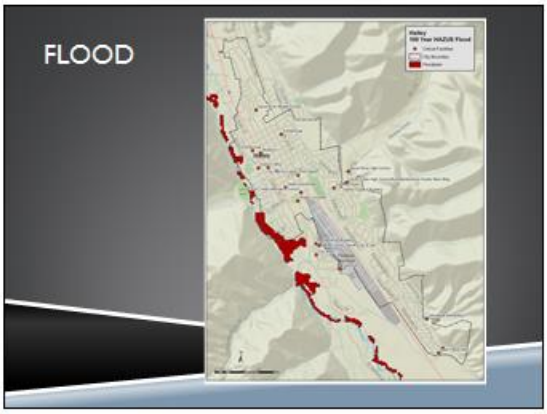
Agency	Representative	Position	Phone	Email
Fire Dept.	Greg Beaver	Chief	481-2141	bfdchief@bellevueidaho.us
Bellevue Mayor	Chris Koch	Mayor	720-6608	PotAtoe@SunValley.net
Bellevue Marshall	Gregory Baker	Deputy	208-691-2969	LCLARK@bellevueidaho.us
City Council	Janet Duffy	Council	208-727-7333 ~~208-788-53~~	JLduFFy@Live.com
Council	Lisa Phillips	✓	208-788-9475	LISARphillips@cox.net

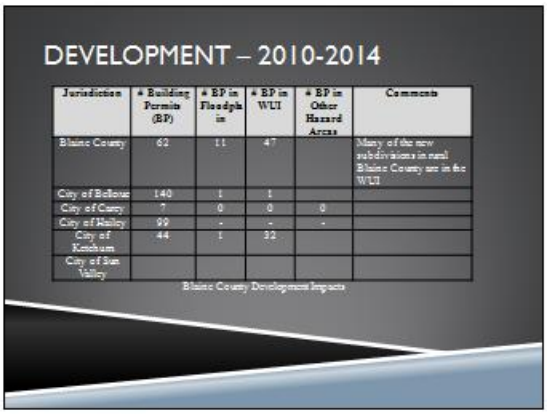
City of Hailey Risk Briefing Video

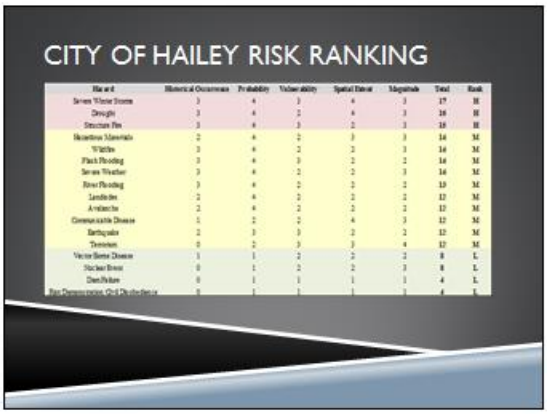
The City of Hailey was provided an Elected Officials/Appointed Officials Video briefing on December 15, 2015. The Video was distributed to the elected and appointed officials for private viewing and discussed at the City Council Meeting




WILDFIRE


FLOOD


DEVELOPMENT – 2010-2014
Jurisdiction
Building Permits (BP)
BP in Floodplain
BP in WUI
BP in Other Hazard Areas
Comments
Blaine County
62
11
47
Many of the new subdivisions in rural Blaine County are in the WUI
City of Bellevue
140
1
1
City of Carey
7
0
0
0
City of Hailey
99
-
-
-
City of Ketchum
44
1
32
City of Sun Valley
Blaine County Development Impacts


CITY OF HAILEY RISK RANKING
Hazard
Historical Occurrence
Probability
Vulnerability
Spatial Extent
Magnitude
Total
Rank
Severe Winter Storm 3 4 3 4 3 17 H
Drought 3 4 2 4 3 16 H
Structure Fire 3 4 2 2 3 14 H
Hazardous Materials 2 4 2 3 3 14 M
Wildfire 3 4 2 2 3 14 M
Flash Flooding 3 4 3 2 2 14 M
Severe Weather 3 4 2 2 3 14 M
River Flooding 3 4 2 2 2 13 M
Landslides 2 4 2 2 2 12 M
Avalanche 2 4 2 2 2 12 M
Communicable Disease 1 2 2 4 3 12 M
Earthquake 2 3 3 2 2 12 M
Terrorism 0 2 3 3 4 12 M
Vector Borne Disease 1 1 2 2 2 8 L
Nuclear Event 0 1 2 2 3 8 L
Dam Failure 0 1 1 1 1 4 L

City of Hailey
Risk Ranking Video
Viewing Log

Agency	Representative	Position	Phone	Email
C of H	Kristine Hilt	CFM	788-9815	kristine.hilt@haileycityhall.org
C of H	Mariel Platt	PW Director	788-9830	marielplatt@haileycityhall.org
C of H				
C of H				
C of H				
C of H	Heathe Dawson	Admin	788-4221 x 18	heathe.dawson@haileycityhall.org
HFD	Craig Aberbach	Fire Chief Em Dir.	788-3147	

City of Ketchum Risk Briefing Video

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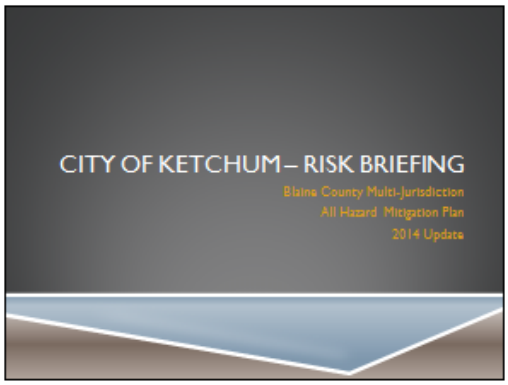
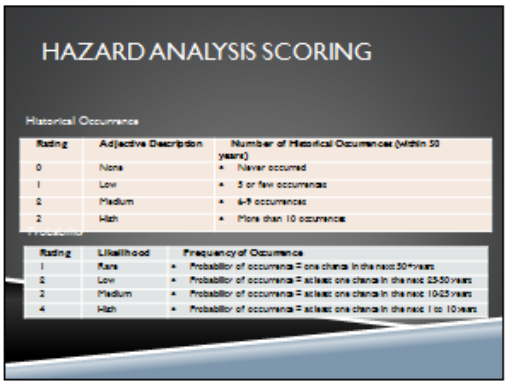
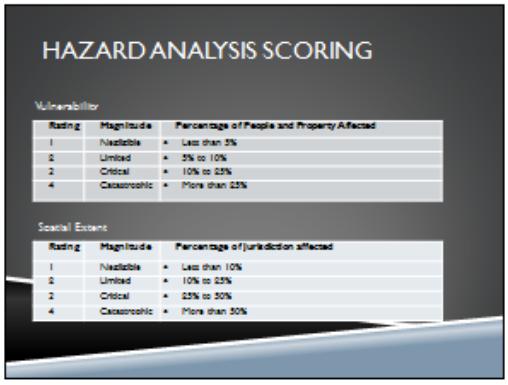
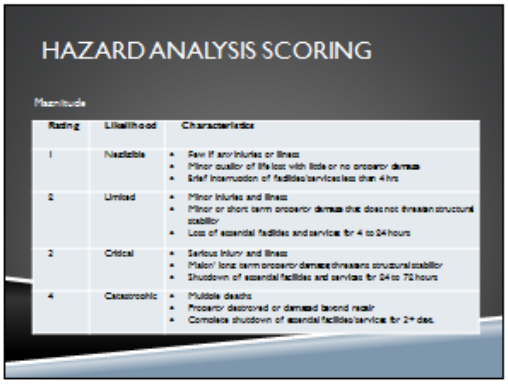
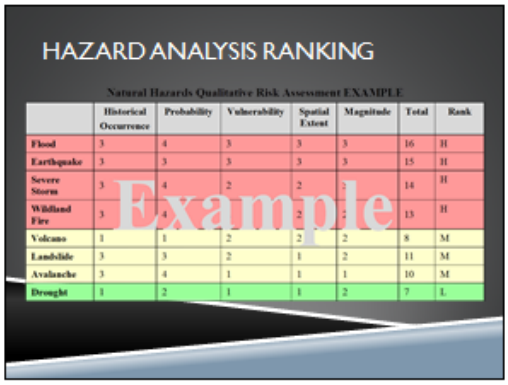
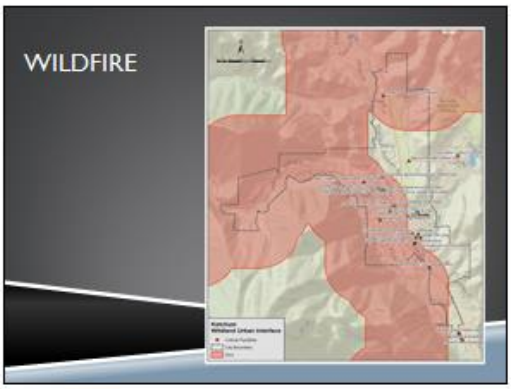


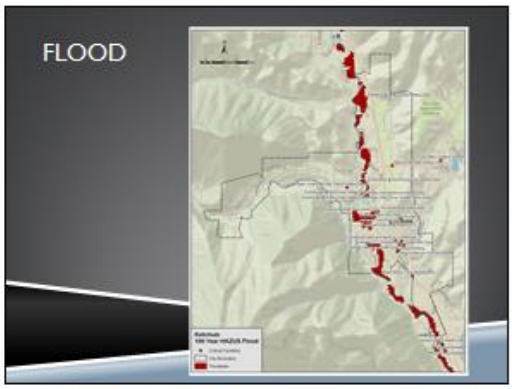


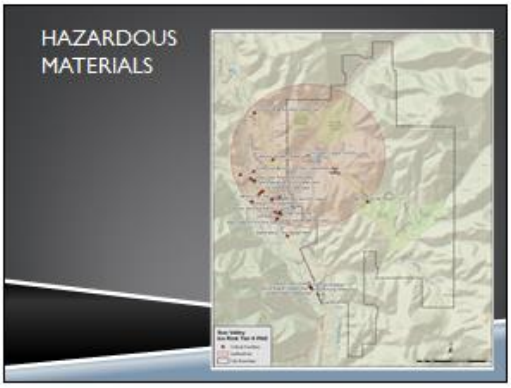


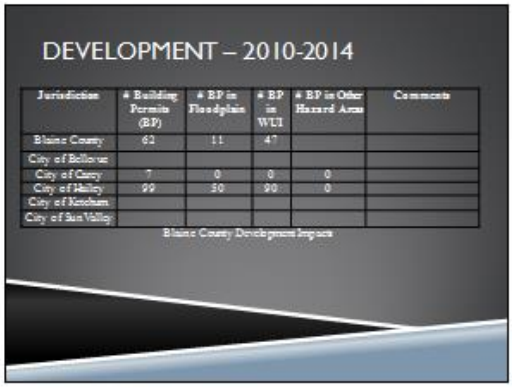






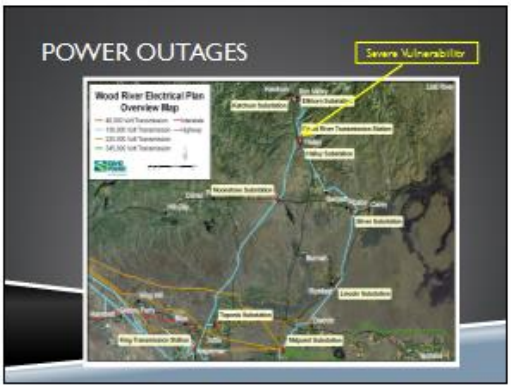


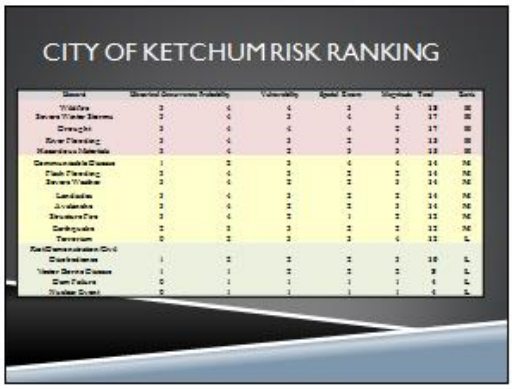




Jurisdiction	# Building Permits (BP)	# BP in Floodplain	# BP in WUI	# BP in Other Hazard Area	Comments
Blaine County	62	11	47		
City of Bellevue					
City of Carey	7	0	0	0	
City of Hailey	99	50	90	0	
City of Ketchum					
City of Sun Valley					

Blaine County Development Impacts





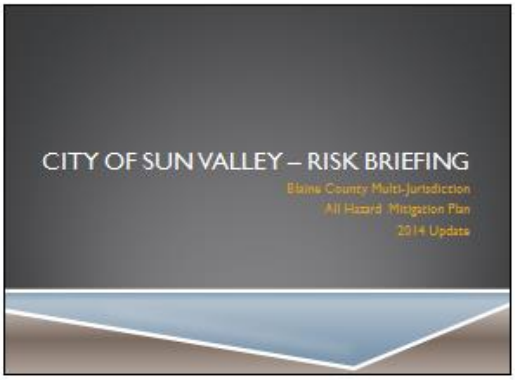
Hazard	Historical Occurrence Probability	Vulnerability	Spatial Extent	Magnitude	Total	Rank
Wildfire	3	4	4	3	4	18	H
Severe Winter Storms	3	4	3	4	3	17	H
Drought	3	4	4	4	2	17	H
River Flooding	3	4	3	3	3	16	H
Hazardous Materials	3	4	3	3	3	16	H
Communicable Disease	1	3	3	4	4	14	M
Flash Flooding	3	4	3	3	2	14	M
Severe Weather	3	4	3	3	2	14	M
Landslide	3	4	3	3	2	14	M
Avalanche	3	4	3	3	2	14	M
Structure Fire	3	4	3	1	2	13	M
Earthquake	2	3	3	3	2	13	M
Terrorism	0	3	3	3	4	13	L
Civil Disturbance/Civil Disobedience	1	3	3	3	3	13	L
Winter Storm Disaster	1	1	3	3	3	9	L
Dam Failure	0	1	1	1	1	4	L
Nuclear Event	0	1	1	1	1	4	L

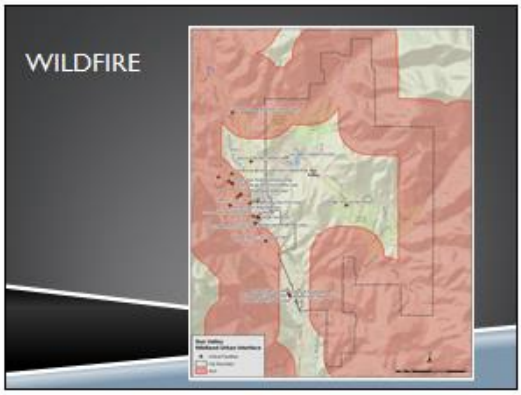
City of Ketchum
Risk Ranking Video
Viewing Log

Agency	Representative	Position	Phone	Email
City Council	Nina Jonas	Mayor	208-726-3841	Njonas@ketchumidaho.org
City Council	Baird Gourlay	Councilperson		bgourlay@ketchumidaho.org
City Council	Michael David	Councilperson		mdavid@ketchumidaho.org
City Council	Jim Slanetz	Councilperson		jslanetz@ketchumidaho.org
City Council	Anne Corrock	Councilperson		acorrock@ketchumidaho.org
City Administration	Suzanne Frick	City Administrator	208-726-7803	sfrick@ketchumidaho.org
Fire Department	Mike Elle	Fire Chief	208-726-7805	melle@ketchumidaho.org
Planning and Building Department	Rebecca Bundy	Senior Planner	208-726-7801	rbundy@ketchumidaho.org
Public Works	Robyn Mattison	Public Works Director	208-726-7825	rmattison@ketchumidaho.org
Street Department	Brian Christiansen	Street Superintendent	208-726-7831	bchristiansen@ketchumidaho.org

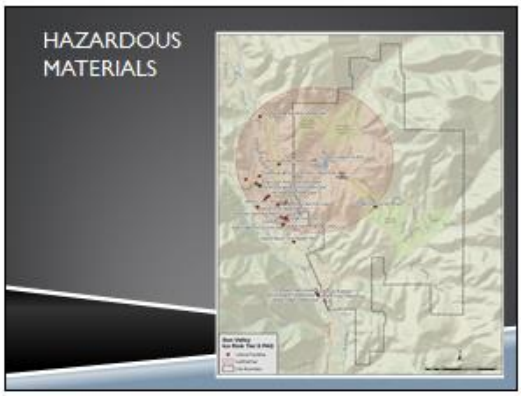
City of Sun Valley Risk Briefing Video

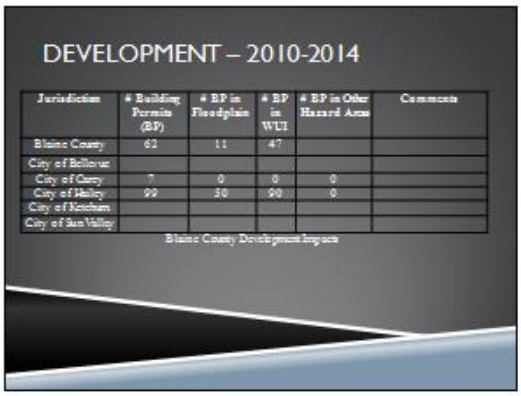
The City of Sun Valley was provided an Elected Officials/Appointed Officials Video briefing on December 15, 2015. The Video was distributed to the elected and appointed officials for private viewing and discussed at the City Council Meeting




WILDFIRE

FLOOD


HAZARDOUS
MATERIALS


DEVELOPMENT – 2010-2014
Jurisdiction
Building Permits (BP)
BP in Floodplain
BP in WUI
BP in Other Hazard Area
Comments
Blaine County
62
11
47
City of Bellevue
City of Carey
7
0
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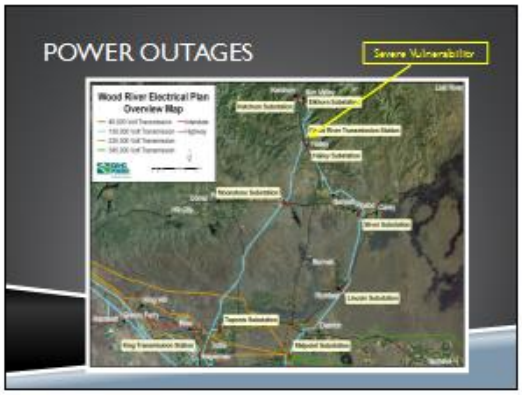
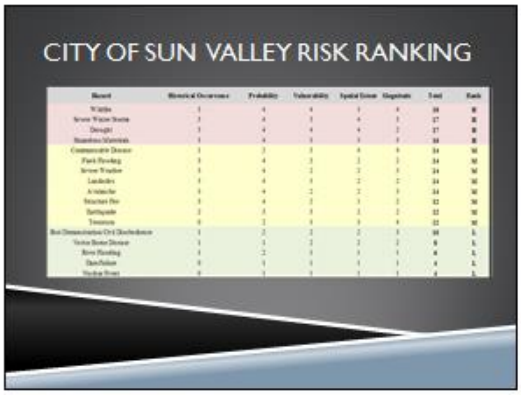
City of Hailey
99
50
90
0
City of Ketchum
City of Sun Valley
Blaine County Development Impacts


POWER OUTAGES
Severe Vulnerabilities
Wood River Electrical Plan
Overview Map


CITY OF SUN VALLEY RISK RANKING

City of Sun Valley
Risk Ranking Video
Viewing Log

Agency	Representative	Position	Phone	Email
City of Sun Valley	Alissa Weber	Clerk	208-622-4438	aweber@svidaho.org
"	Michelle Griffith	Council	(208)721-7949	mgriffith@svidaho.org
"	Peter Hendricks	Council	208 622 3720	phendricks@svidaho.org
City of Sun Valley	Mark Hofman	CD Director	(208) 622-4438	mhofman@svidaho.org
"	Abby Rivin	planner	(208)622-4438	arivin@svidaho.org
" "	Kelly Sooks	Council	726-2828	ksooks@svidaho.org
" "	Ray Franco	Fire chief	208-622-8234	rfranco@svidaho.org
" "	Bill Whitsell	Street Superintendent	208-622-4438	bwhitsell@svidaho.org
" "	Susan Robertson	City Administrator	208-622-4438	srobertson@svidaho.org
" "	Angela Walls	Treasurer	"	awalls@svidaho.org

Agency	Representative	Position	Phone	Email
city of Sun Valley	Benayre Briscoe	Mayor	2087217752	dbriscoe@svidaho.org

ATTACHMENT 2

May 2016

Blaine County Idaho

Community Wildfire Protection Plan

Blaine County has taken the steps in developing a County Fire Working Group, a Community Wildfire Protection Plan – 2016, 2014, 2011, 2009 and 2006 to complement the County Fire Plan – 2004. This document serves as an addendum to previous plans and aspiration to continue using this document as a tool to prove useful in helping Blaine County establish recommendations and priorities that protect their citizens, homes, and essential infrastructure and resources from the destruction of catastrophic wildfire.

A. County Working Group Membership

Please list the members of your County Working Group who were involved in this decision making process including their affiliation and job title (if necessary):

Other Members:

Bart Lassman, Wood River Fire and Rescue

Mike Elle, Ketchum Fire Department

Charlie Butterfield, Sun Valley Fire Department

Reid Black, Sun Valley Fire Department

Ray Franco, Sun Valley Fire Department

Craig Aberbach, Hailey Fire Department

Richard Kimball, Carey-Picabo Rural Fire District

Greg Beaver, Bellevue Fire Department

Don Hartman, West Magic Fire District

Stacy McLaughlin, West Magic Fire District

Chuck Turner, Blaine County Disaster Services

Brandon Brown, Twin Falls Bureau of Land Management

Ryan Berlin, Twin Falls Bureau of Land Management

Tyre Holfeltz, Idaho Department of Lands

Matt Filbert, Sawtooth National Forest

Michelle Erdie, Sawtooth National Forest

Chris Corwin, Blaine County Emergency Communications

Lorraine Simonson, Wildland Fire Educator, Mid-Snake RC&D

Jeff Giese, Blaine County Building Department

Angenie McCleary, Blaine County Commissioner

Jacob Greenberg, Blaine County Commissioner

Lawrence Schoen, Blaine County Commissioner

These members were vital in the CWPP Amendment for 2016, which supersedes the CWPP Amendment 2014.

B. Hazardous Fuels Treatments, Non Federal Lands

This list of priorities may be changed at any time as projects are completed or as conditions warrant.

Heatherland Firewise Communities/USA

Wood River Fire and Rescue and Ketchum Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing and hand thinning on existing project to create defensible space around homes. December 2017

Greenhorn Hillside Firewise Communities/USA

Wood River Fire and Rescue and Ketchum Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2019

Smiley Creek Firewise Communities/USA

Smiley Creek Fire Protection District. Mowing and hand thinning to create defensible space around homes. December 2020. Prevention/education, FD/VFD assist, mechanical.

Eagle Creek

Ketchum Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Elkhorn Subdivision

Sun Valley Fire Department. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Weyyakin Subdivision

Sun Valley Fire Department. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Snowcreek Subdivision

Sun Valley Fire Department. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Sage Hill Subdivision

Sun Valley Fire Department. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Bellevue 6th and 7th St. Hillside

Bellevue Fire Department. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Bigwood River, West Hailey

Hailey City Fire Department and Wood River Land Trust. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

West of Little Wood Reservoir Road

Carey-Picabo Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2019

Scott Road Subdivision

Carey-Picabo Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2019

Little Wood Reservoir Road, south of Reservoir, Isolated Tracts

Carey-Picabo Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2019

Near Gannett and along Punkin Center Road, Isolated Tracts

Carey-Picabo Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2019

Near Picabo and along Picabo Desert Road, Isolated Tracts

Carey-Picabo Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2019

West Magic, Isolated Tracts

West Magic Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

East Magic, Isolated Tracts

Wood River Fire and Rescue. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

East Fork and Triumph Area

Ketchum Rural Fire District, Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

River Bend Canal Easement

Wood River Fire and Rescue- 250 Yards. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Indian Creek

Wood River Fire and Rescue. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Starweather Subdivision

Wood River Fire and Rescue. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Zinc Spur Subdivision

Wood River Fire and Rescue. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Croy Creek Canyon Subdivisions

Wood River Fire and Rescue. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Fairway Road and specifically Rudd Mountain

Sun Valley Fire Department. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, goats, and seeding to create defensible space around homes and historic infrastructure. December 2020.

White Cloud Subdivision

Sun Valley Fire Department. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, goats, and seeding to create defensible space around homes. December 2020.

Gimlet Subdivisions

Ketchum Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Warm Springs

Ketchum Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Chocolate Gulch

Ketchum Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Barlow Subdivision

Ketchum Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

Hulen Meadows Subdivision

Ketchum Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. Mowing, hand thinning, and seeding to create defensible space around homes. December 2020.

C. Hazardous Fuels Treatments, Federal Lands

This list of priorities may be changed at any time as projects are completed or as conditions warrant.

1. **Mistletoe Reduction Bell Mountain.** Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. (ask)
2. **Martin Canyon.** Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting.
3. **Bald Mountain Vegetation Health and Fuel Reduction.** Master Development Plan. Mechanical, prescribed fire, chemical, seeding/planting, FD/VFD assist, Prevention/education.
4. **Greenhorn Hillside Firewise Communities/USA.** Wood River Fire and Rescue and Ketchum Rural Fire Department. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting.
5. **Deer Creek Watershed West of Highway 75.** Wood River Fire and Rescue. Trail restoration, prescribed fire with moderate intensity, mechanical treatment removal along the roads and thinning along Imperial Trail. Prevention/education, FD/VFD assist, seeding and planting.
6. **West of Little Wood Reservoir Road, Isolated Tracts.** Carey-Picabo Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. 350 acres.
7. **Eagle Creek.** Ketchum Rural Fire Department. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting.
8. **Scott Road Subdivision.** Carey-Picabo Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. 33 acres.
9. **North of Carey, between Austin, Little Wood Reservoir and Barton Roads, Isolated Tracts.** Carey-Picabo Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. 175 acres.
10. **Little Wood Reservoir Road, south of Reservoir, Isolated Tracts.** Carey-Picabo Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. 1000 acres.
11. **Near Gannett and along Punkin Center Road, Isolated Tracts.** Carey-Picabo Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. 150 acres.
12. **Near Picabo and along Picabo Desert Road, Isolated Tracts.** Carey-Picabo Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. 125 acres.
13. **West Magic, Isolated Tracts.** West Magic Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting. 5 acres.
14. **Beaver Creek and Sawtooth City Vicinity and North to County Line, Isolated Tracts.** Smiley Creek Rural Fire District. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting.
15. **East Magic, Isolated Tracts.** Wood River Fire and Rescue. Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting.

D. Firefighting Assistance Funds

1. All Blaine County Fire Districts need updated personal protection equipment (PPE), fire shelters, brush nozzles, brush hose.
2. Wildland firefighting training and volunteer recruitment needs improved for all fire departments within Blaine County.
3. Blaine County fire departments continue to look at collaborative efforts in applying for grants based on the Consolidation Study.
4. Continue to ensure success of recently created Blaine County Fire Chiefs Co-op.
5. Sun Valley Fire department is working on a new interagency fire station. Land has not been purchased yet.
6. Ketchum Fire Department and Hailey Fire Department need new fire stations to meet growing needs.
7. Type III/IV Engine for Ketchum Rural Fire Department.
8. Emergency Back-up Generators for both Ketchum Rural Fire Department stations.
9. 30,000 gallon cistern in the Triumph area out East Fork Road.
10. Mobile Data Computers on all emergency vehicles for Ketchum Rural Fire Department and Sun Valley Fire Department.
11. Blaine County and Emergency response agencies purchase interoperable devices for communications.
12. Wood River Fire and Rescue is in the process of locating property for a future fire station to replace two stations in Hailey as defined in a 2011 Cooperative Efforts Feasibility Study.

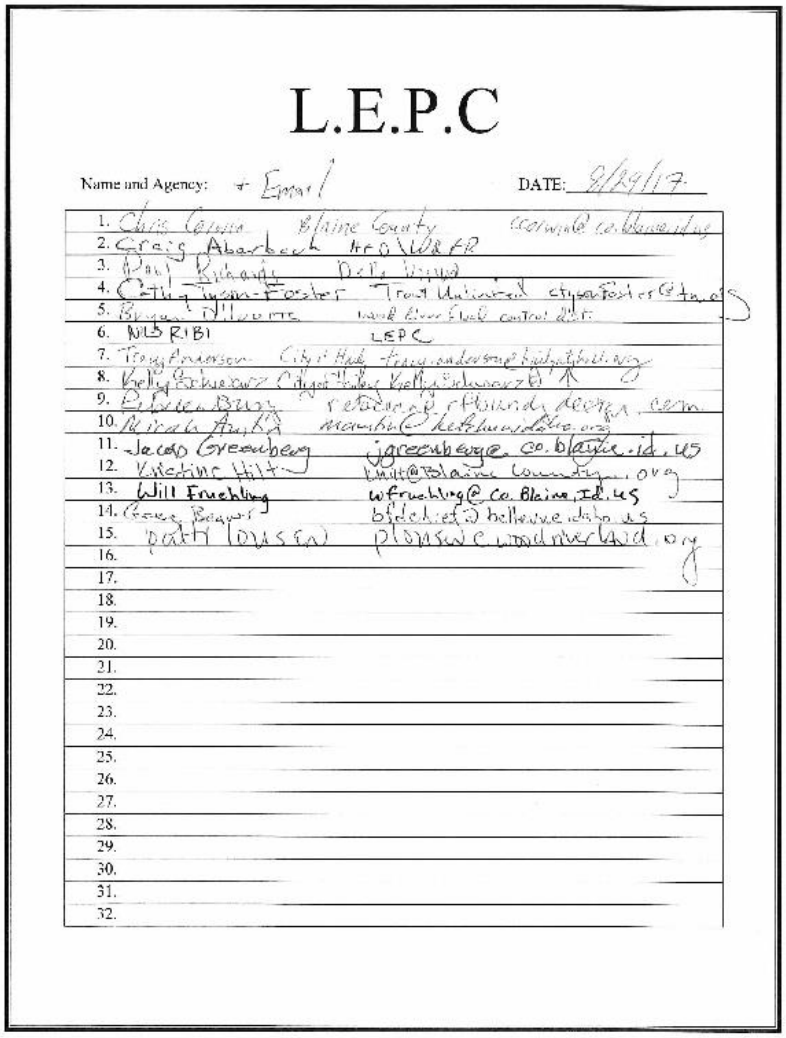
E. Other prioritization needs

1. Continue work on Firewise practices/principles through education and public service announcements.
2. Continue pre-planning and development of subdivision for road easements and access county wide.
3. Continue training local home owners, landscape companies, HOA's, and architects on Home Ignition Zones.
4. Continue to use and update mutual aid agreements.
5. Create/Update Blaine County Firewise web page.
6. Update WUI feature layer and Structure assessment feature layer and update WUI maps.
7. Continue utilizing mapping software information gathered with GIS applications within the County.
8. Continue preschool fire prevention educational program.
9. Firewise Communities/USA in Greenhorn Gulch and Smiley Creek.
10. Community Wildfire Preparedness Day, May 7th
11. Blaine County and Municipalities within Blaine County will adopt the principles of the WUI code within their land use and building ordinances with public support.

ATTACHMENT 3

AMENDED PROJECTS FROM FALL 2017 PLANNING MEETING AFTER SPRING 2017 FLOODS.

After the spring flood of 2017, the members of the Blaine County LEPC had a meeting to discuss updating the projects within the All Hazards Mitigation Plan on August 29, 2017. The sign-in sheet is displayed below. During the meeting, it was decided that each jurisdicition that wanted to change their projects could do so in local meetings. Those entities met and have supplied the below updates to the projects within this All Hazard Mitigation Plan.



L.E.P.C

Name and Agency: + Email DATE: 8/29/17

1. Chris Corwin Blaine County ccorwin@co.blaine.id.us
2. Craig Aberbach HFO/WRFR
3. Paul Richards Dept Wildlife
4. Cathy Tyson-Foster Trout Unlimited ctysonfoster@tu.org
5. Bryan Nilmette Wood River Flood control dist.
6. NLB RIBI LEPC
7. Troy Anderson City Hall troy.anderson@haileybid.org
8. Kelly Schwarz City of Hailey Kelly.Schwarz@
9. Dawn Buzzy rebuilding rebuilding design.com
10. Nicole Fuller nicole@haileyarts.org
11. Jacob Greenberg jgreenberg@co.blaine.id.us
12. Valerie Hilt vhilt@blaincounty.org
13. Will Fruehling wfruehling@co.blaine.id.us
14. Bruce Beaver bbeaver@bellevue.idaho.us
15. Patti Dyas (DYAS) pdyas@woodriverwid.org
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Blaine County Updated Projects and Rankings

Blaine County Project Ranking

Blaine County	
Project	**Rank**
Continue to review and support amendments to the Blaine County Fire Protection Ordinance which establishes road widths, access, water supply, and building modifications suitable to ensure new structures are better protected.	H
Consider an overlay district for the WUI areas in the County Comprehensive Plan	H
Streambank stabilization of Big Wood River in the areas north and south of the Bellevue Bridge on Broadford Road. These areas include the Fisherman's Access, Broadford Levee and Howard Preserve.	H
Streambank stabilization of the BWR southwest bank upstream of the BCRD RR Bridge west of State Highway 75 and north of Hospital Dr.	H
Streambank stabilization of east bank of BWR along State Highway 75 southbound road right of way south of Lake Creek Drive.	H
Install power backup systems on county public safety infrastructure.	H
Conduct a study for recharge in flood prone areas	H
Design and build radio communications system on Galena Summit	H
Obtain multi-band radios for all first responders	H
Continue Culvert and Bridge Maintenance/ Placement and Gravel Road Upgrade Program	M
Complete projects stated within Blaine County Idaho Community Wildfire Protection Plan, Attachment 2 of AHMP	M
Maintain CRS Status for the City	M
Install Road Signs as prescribed by NFPA Standards	M
Install seasonal road signage	M
Purchase road closed, water over road signs	M
Construct injection capability for floodwaters on Big Wood River	L
Stockpile temporary flood fight material at W Glendale BCRB shop	L
Develop a listing of schools and public buildings that need to be seismically retrofitted	L
Earthquake protection or hardening county facilities	L
Develop a standard practice for roadside vegetation management	L
Develop a plan & methodology for protection from biological threats	L
Conduct a county terrorism assessment on all infrastructure, facilities, and digital systems	L

GOALS

BLAINE COUNTY

Severe Weather

- Blaine County will develop methods to mitigate the losses due to severe weather in the County.

Drought

- Evaluate potential for supply augmentation, primarily from expansion of groundwater supplies.
- Evaluate demand reduction measures

Flooding

- Blaine County will continue to participate in the National Flood Insurance Program and develop actions that will reduce the damage to County infrastructure due to flash and stream flooding.

Geological

- Blaine County will reduce potential damage to County infrastructure and structures through implementation of earthquake mitigation techniques.
- Blaine County will reduce the potential damage to property from Landslides and Avalanches by adopting codes and standards for construction in landslide prone areas.

Wildfire

- Blaine County will reduce the losses caused by wildfire by utilizing recommendations and projects listed in the Blaine County Community Wildfire Protection Plan (CWPP).

Biological

- Blaine County will seek to reduce the exposure of humans and animals to infectious diseases.

Structural Fire

- Blaine County will seek to reduce losses from Structure fires through working with private property owners.

Terrorism

- Blaine County will identify measures to protect critical County infrastructure, facilities, and digital systems from potential terror incidents.
- Blaine County will improve interoperable communications.

BLAINE COUNTY

Severe Weather

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will develop methods to mitigate the losses due to severe weather in the County.	Improve the Safety of County Roads and Bridges	Install temporary Windbreaks in areas where blowing snow occurs along Highway 75 between Bellevue and Sun Valley.	ITD	ROM - $50,000 2016 –Identify Funding 2017 – Install Fencing (Not included in Ranking)
		Install Seasonal Road Signage	Road and Bridge	2015-ROM -$30000 Completed 2017

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will continue to participate in the National Flood Insurance Program and develop actions that will reduce the damage to County infrastructure due to flash and stream flooding.	Maintain the NFIP Requirements	Maintain CRS Status for the County	Floodplain Administrator	No Cost
		Complete Floodplain Manager Certification Program	Floodplain Administrator	No Cost Completed 2016
		Construct Injection Capability for floodwaters on Big Wood River	Flood District	ROM - $500,000 2016 – Engineer Solution
		Conduct a study for recharge in flood prone areas	Recharge District	ROM - $50,000

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
(Not included in Ranking)		Install Culverts to protect roadways along HWY 26 in the Carey Area	State of Idaho ITD	ROM – $150,000 2015 – Place on Future Schedule 2016 – Seek Funding
	Improve Drainage System	Continue Culvert and Bridge Maintenance/ Placement and Gravel Road Upgrade Program	Blaine County	ROM-$450,000/Yr for Crushed Rock ROM-$60,000/Yr for Culverts and Culvert Cleaning ROM-$80,000/Yr for Tree Removal and Ditch Work ROM-$450,000 For Replacement of Muldoon Creek Bridge, Upper High 5 Bridge and W. Glendale Bridge Replacement ROM-$40000/YR For Engineering Bridge Designs 2015-2030 ROM=$700000 Per Year to Continue 100 Mile Gravel Road Upgrade Program to improve road drainage and prevent road damage/road closures from flooding through culverts, dry wells, ditches proper crow and road materials ROM-$3000 per year to update record of bridges and culverts on county roads
	Provide Big Wood River Flood Fight Capability	Stockpile Temporary flood fight materials at the W. Glendale BCRB Shop	Blaine County R&B	ROM-$200,000 For 3000 Tons of Rip, 100 Concrete Blocks, and 3000 Tons of Pit Run Stockpiled BCRB . ROM-$500000 For an on Call Contractor Rock Crushing and Haul to Flood Fight Locations.

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
	Big Wood River Flood Mitigation Broadford RD	Stream bank stabilization of west bank of Bellevue Bridge on Broadford Road.	Blaine County and Flood Control District	ROM-$50,000 Design Permitting ROM-$300,000 Materials and Rental Equipment *Schedule - TBD*
	Big Wood River Flood Mitigation for Hospital Bridge	Stream bank stabilization of upstream Southwest bank BCRD RR Bridge Hospital Drive	Blaine County and Flood Control District	ROM-$50,000 Design Permitting ROM-$400,000 Materials and Rental Equipment *Schedule - TBD*
	Flood Warnings Along County Roads	Purchase Road Closed, and Water over Road Signs	Blaine County R&B	ROM- $30,000 for Signs and barricades *Schedule - TBD*
	Big Wood River Flood Mitigation and Protection of utilities for Highway 75 near Lake Creek	Stream bank stabilization of east bank along Highway 75 road right of way.	ITD and Flood Control District	ROM-$50,000 Design Permitting ROM-$400,000 Materials and Rental Equipment *Schedule - TBD*

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will reduce potential damage to County infrastructure and structures through implementation of earthquake mitigation techniques.	Priority should be given to schools, public buildings, community evacuation and assessable sites.	Earthquake Protection or Hardening County facilities	County Operations	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
		Develop a listing of schools and public buildings that need to be seismically retrofitted	District Building Official	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs
		Install power backup systems on county public safety infrastructure.	Fire and EMS Districts	ROM – $50,000 2016 – Seek Funding 2017 – Construct System

Wildfire

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will reduce the losses caused by wildfire by utilizing recommendations and programs listed in the Blaine County Community Wildfire Protection Plan.	Improve Protection through the proper use of Ordinances and Codes	Continue to review and support amendments to the Blaine County Fire Protection Ordinance which establishes road widths, access, water supply, and building modifications suitable to ensure new structures are better protected.	P & Z Administrator/Fire Districts	On Schedule 2018
		Consider an overlay district for the WUI areas in the County Comprehensive Plan	P & Z Administrator	
	Improve access to areas prone to Wildland Fire	Maintain a listing of roads, bridges, cattle guards, culverts, and other limiting conditions and incorporate improvements into the County Transportation Plan	Fire District/Road and Bridge	Road and Bridge Inspection Records in IWORQ Data base complement culvert and cattle guard inspection and record estimate completion date is 2018.

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
	Conduct Roadside Vegetation Treatments to reduce flammable fuels immediately adjacent to roads in high risk areas.	Develop a standard practice for roadside vegetation management.	Fire District	ROM – No Cost – Work with Road and Bridge to develop policy
Blaine County will reduce fuels in the Wildland Urban Interface	Implement a countywide fuels reduction program	Complete projects stated within Blaine County Idaho Community Wildfire Protection Plan, Attachment 2 of AHMP	All Blaine County Fire Protection Districts	Ongoing – Community Wildfire Protection Plan
	Update and Improve Road Signing and Rural Addressing	Install Road Signs as prescribed by NFPA Standards	Road and Bridge	ROM - $50,000 2017 – Seek BLM or LTHAC Grant to purchase signs. 2018 – Install Signs

Biological

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will seek to reduce the exposure of humans and animals to infectious diseases.	Identify risks from potential biological threats	Develop a plan & methodology to protect from biological threats	Health District Blaine County Idaho Dept. of Ag	ROM - $10,000 2018– Develop Plan

Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will identify measures to protect critical County infrastructure, facilities, and digital systems from potential terror incidents.	Identify and protect potential terrorism targets.	Conduct a County Terrorism assessment on all infrastructure, facilities, and digital systems.	All County Departments	ROM – Unknown 2017 – Develop Process (THIRA) 2018– Begin to Conduct Assessments
Blaine County will improve interoperable communications.	Improve interoperable communications	Design and build radio communications system on Galena Summit	Blaine County BCSO	ROM – $1,500,000 2017 – Start planning and permitting and design 2018– Work to secure funding
		Obtain multi-band radios for all first responders	Blaine County BCSO Fire Districts	ROM – $1,500,000 2017 – Develop resource list 2018– Work to secure funding

Blaine County Sign-In Sheet

L.E.P.C

Name and Agency: DATE: 9/6/17

1.	Mike Ellis	Ketchum
2.	Rebecca Bundy	HAILEY
3.	Jeff Loomis	County Engineer
4.	Steve Thompson	Road / Bridge - County
5.	Esmeralda Palomera	Administrative Ser. Specialist
6.	Kristine Hilt	County Land Use
7.	Angie McCleary	Blaine County
8.	Chris Corwin	Blaine County
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City of Hailey Updated Projects and Rankings

CITY OF HAILEY

Severe Weather

Extreme Cold

- Reduce the impact of long periods of extended cold, due to power outages, or interruption of other heating fuels.

Winter Storms

- Reduce impacts from winter storms.

Drought

- The City will examine ways to mitigate drought.

Flooding

- Reduce impacts from flooding city-wide, and prevent structures from being constructed in flood prone areas.
- Continue to participate in the NFIP.

Geological

Earthquake

- Reduce potential damage to city infrastructure and structures.

Avalanche/Landslides

- Reduce the potential of deaths or injury by prohibiting construction of structures on “Red Zone” areas and limiting development in “Blue Zone” avalanche areas.
- Increased awareness of avalanche/landslide areas through informational programs and signage is recommended.

Wildfire

- Reduce the losses caused by wildfires, and their impact on persons affected by them.

Terrorism

- The City will identify measures to protect critical City infrastructure, facilities, and digital systems from potential terror incidents.

CITY OF HAILEY

Severe Weather

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the impact of long periods of extended cold, due to power outages, or interruption of other heating fuels.	Emergency Sheltering	Identify a community shelter and develop an MOU with the owner for use during an emergency.	Mayor & City Council	ROM – No Cost 2015 – Identify Shelter and Sign MOU
Reduce impacts from winter storms.		Survey Critical Infrastructure to determine its snow load capacity. This project could conceivably be combined with the earthquake seismic assessment.	City Engineer	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs
	Protect from Effects of Unscheduled Outages	Purchase a mobile generator to assist in water supply demands during a power outage	Public Works	ROM – 10,000 2016 – Seek Funding 2017 – Install Generator
	Drought Planning	Address cross-contamination and backflow in the clean drinking water for the City of Hailey	Public Works	ROM - $25,000 2016 – Engineer Solution

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Study, plan, implement and/or participate in flood mitigation efforts	Mitigate flood hazards affecting public infrastructure and properties	Improve residential storm water management and drainage in the Della View subdivision	Public Works	$750,000 2017-2019
		Add flood water conveyance swales and channels in Heagle Park	Public Works	$150,000 2017-2019
		Protect wastewater lift station and access road in Della View subdivision	Public Works	$200,000-$500,000 2017-2019
		Conduct feasible and appropriate mitigation projects associated with the Draper Preserve and river channel adjacent to Della View subdivision	Mayor and City Council	$1,500,000 2017-2022
Reduce property damage from flooding	Mitigate flood hazards affecting private property	Require additional freeboard for structures located in the regulatory floodplain	Community Development	$3000 2017-2019
		Seek funding to assist private property owners to elevate homes that do not meet code	Community Development and Public Works	$300,000 2017-2019
Continue to participate in the National Flood Insurance Program	Protect Property from Flooding	Install Culvert in south end of Quigley Drainage	Public Works	ROM – 2500 2015 – Replace Culverts
		Assess Della View area drainage	Floodplain Administrator	ROM $5000 2015 – Conduct Assessment

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce potential damage to city infrastructure and structures.	Protect Infrastructure	Perform a Structural Engineering Survey to identify City and public buildings that need to be seismically retrofitted.	City Engineer	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs
		Seismically retrofit critical buildings and infrastructure.	City Engineer	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs

Avalanche/Landslide

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the potential of deaths or injury by prohibiting construction of structures on “Red Zone” areas and limiting development in “Blue Zone” avalanche areas.	Avalanche/Landslide Protection	Perform a landslide identification study	City Engineer	ROM – $15,000 2015 – Secure Funding 2016 – Conduct Study

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
		Develop a public awareness campaign to increase the awareness of avalanche/landslide areas through informational programs and signage.	Mayor / City Council	No Cost 2015 – Provide Education Materials on the Blaine County LEPC Website

Wildfire

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the losses caused by wildfires, and their impact on persons affected by them.	Improve Wildland Urban Interface Planning	Develop a GIS Based Fuel Model that can be used in Fire Response	Fire Department	ROM – $25,000 2016 – Work with WUI Committee to develop joint project
		Bigwood River, West Hailey Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	Hailey City Fire Department	Ongoing – Firewise Program

Biological – *Pandemic Flu*

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Be prepared to adequately respond to citizen's long-term needs during an extended outbreak of disease or famine.	Improve Pandemic Preparedness	Store necessary health care supplies for citizens and guests of Hailey, in a home care situation.	SCPHD	ROM – Unknown 2015 – Determine Need 2016 – Set Policy and Seek Funding 2017- Purchase Supplies

Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the impact of terrorism or vandalism	Protect Community Infrastructure	Develop methods to secure critical infrastructure.	Public Works	ROM – Unknown 2015 – Develop Process (THIRA) 2016 – Begin to Conduct Assessments

Other

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Develop a viable Continuity of Government Plan	Improve Disaster Response	Develop a comprehensive Continuity of Government plan	Mayor / City Council	ROM - $5000 2016– Include as a SHSP Planning Activity
		Construct Fuel Storage at the Street Department Shop	Public Works	ROM - $15,000 2016- Identify Funding 2017 – Construct Storage

City of Hailey Project Ranking

City of Hailey	
	Rank
Improve residential storm water management/drainage in the Della View subdivision	H
Add flood water conveyance swales/channels in Heagle Park	H
Protect wastewater lift station and access road in Della View subdivision	H
Conduct feasible and appropriate mitigation projects associated with the Draper Preserve and the river channel adjacent to Della View subdivision	H
Require additional freeboard for structures located in the regulatory floodplain	H
Seek funding to assist private property owners to elevate homes that do not meet code	H
Address cross-contamination and backflow in the clean drinking water for the City of Hailey	H
Identify a community shelter and develop an MOU with the owner for use during an emergency.	H
Develop methods to secure critical infrastructure.	H
Develop a comprehensive Continuity of Government plan	H
Install Culvert in south end of Quigley Drainage	M
Purchase a mobile generator to assist in water supply demands during a power outage	M
Develop a public awareness campaign to increase the awareness of avalanche/landslide areas through informational programs and signage	M
Perform a landslide identification study	M
Construct Fuel Storage at the Street Department Shop	M
Survey Critical Infrastructure to determine its snow load capacity. This project could conceivably be combined with the earthquake seismic assessment.	L
Perform a Structural Engineering Survey to identify City and public buildings that need to be seismically retrofitted.	L
Assess Della View area drainage	L
Bigwood River, West Hailey Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	L
Develop a GIS Based Fuel Model that can be used in Fire Response	L
Store necessary health care supplies for citizens and guests of Hailey, in a home care situation. (SCPHD Project)	L
Seismically retrofit critical buildings and infrastructure.	L

City of Hailey Planning Meeting Sign-In Sheet

City of Hailey
Flood Recovery Planning Meetings
Including Blaine County All Hazard Mitigation Plan Updates
Sign-In Sheet

August 3, 2017

PRINTED NAME	AGENCY	SIGNATURE
Tracy Anderson	City of Hailey	
	C of H	
REBECCA BUNDY	C of H	
Jeff Gunter	C of H	
Roger Parker	C of H	
Ken Harris	City of Hailey	
Fritz Haemmerle	City of Hailey	
Brian Yeager	C of H	

August 8, 2017

PRINTED NAME	AGENCY	SIGNATURE
Tracy Anderson	City of Hailey	
	C of H	
REBECCA BUNDY	C of H	
Jeff Gunter	C of H	
Ken Harris	C of H	
Brian	C of H	

City of Ketchum Updated Projects and Rankings

CITY OF KETCHUM

Flood

- The City of Ketchum will work for increased flood protection of and minimization of flood damage to structures and infrastructure in the City limits.

Earthquake

- The City of Ketchum will reduce potential damage to City infrastructure and structures through implementation of earthquake mitigation techniques.
- The City of Ketchum will reduce the risk of damage to essential City services.

Drought

- The City of Ketchum will protect the Valley's aquifer and our water supply.

Snow Avalanches

- The City of Ketchum will reduce potential death and /or, injuries to the public as well as protect city infrastructure through public warning systems and increased public awareness of avalanche potentials.

Lightning

- The City of Ketchum will protect its buildings and infrastructure from damage by lightning.

Power Outages

- The City of Ketchum will provide auxiliary power and fuel source for City services in case of power outage.

Terrorism

- The City of Ketchum will increase the security of City infrastructure.

Structure Fire

- The City of Ketchum will ensure that water system capacity meets fire demands

Widfire

- The City of Ketchum will reduce risk to lives and properties from wildfires.

Cyber-Terrorism

- The City of Ketchum will reduce the potential for external non- authorized access to protected information and systems.

Hazardous Materials

- The City of Ketchum will identify and increase awareness of potential hazardous material transport and storage locations in the city

General Hazards

- The City of Ketchum will ensure that its networks and communications systems are fully functional in the event of an emergency.

CITY OF KETCHUM

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will work for increased flood protection of and minimization of flood damage to structures and infrastructure in the City limits.	Reduce flood insurance claims and damage.	Revise floodplain ordinance to comply with FEMA NFIP requirements.	Floodplain Administrator	Done Summer 2014
		Continue to refine floodplain ordinance for effectiveness and compliance.	Floodplain Administrator	On-going
		Continue to participate in the NFIP.	Floodplain Administrator	On-going
		Lidar mapping of the Bigwood River in Ketchum.	Risk Mapping Team	Under-way
		Investigate report of new bridges in Bigwood Watershed Flood Risk Report.	Floodplain Administrator	ROM- No Costs
	Mitigate flood risk in West Ketchum where Bigwood Watershed Flood Risk Report identified cluster of flood claims.	Study drainage channel system for possible blockages.	Floodplain Administrator/Public Works	ROM – No Costs

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
		Remove blockages from drainage channels including blockages from wastewater discharge effluent pipe into the Big Wood River	Public Works/Private Property Owners	ROM – $200,000 2015- Conduct Assessment 2016 – Apply for Permits 2017 – Seek Funding
		Mitigate bank overflows onto Picabo Street, Skiway Drive, Manchester Court and Wood River drive from 2017 flood event	Floodplain Administrator/ Public Works/ Private Property Owners	OMC: <$250,000 2017- Conduct Assessment 2018- apply for permits 2019- Seek Funding
		Continue to participate in the CRS.	Floodplain Administrator	On-going
	Protect critical infrastructure located in floodway and floodplains that were threatened in the 2017 flood	Sewer line adjacent to Broadway Ct., including remediation	Floodplain Administrator/ Public Works/ Private Property Owners	OMC: <$250,00 Planning Horizon: Current- Ongoing
		Sewer crossing at 419 Broadway, including remediation	Floodplain Administrator/ Public Works/ Private Property Owners	
		Sewer line crossing Warm Springs Creek at Aspen Drive, including remediation	Floodplain Administrator/ Public Works/ Private Property Owners	
	Reduce flood insurance premiums.			

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
		Lower the City's CRS rating from 6 to 5.	Floodplain Administrator	On-going
		Maintain Floodplain Manager Certification	Floodplain Administrator	On-going
	Understand risks associated with possible inundation from failure of the Trail Creek Dam east of Ketchum in City of Sun Valley.	Trail Creek Dam inundation mapping study.	Ryan McDaniel, BHS/FEMA	May be under-way.
	Mitigate flood damage due to events that overload City stormwater drainage systems.	Study drainage systems and develop Master Plan.	Public Works	ROM - $50,000 2016 Seek Funding
		Develop Management Plan.	Public Works	ROM- $50,000 2017 – Develop Plan
		Implement	Public Works	2018 – Seek Funding
		Develop Ordinances to Manage Storm Water in Subdivisions	Public Works	ROM – No Cost 2015 Develop Ordinance

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will reduce potential damage to City infrastructure and structures through implementation of earthquake mitigation techniques.	Protect Infrastructure	Harden city water supply against damage from Earthquakes.	Mayor/Public Works	ROM – Unknown 2015 – Determine Need
		Harden city sewer system against damage from earthquakes.	Mayor/Public Works	ROM – Unknown 2015 – Determine Need
The City of Ketchum will reduce the risk of damage to essential City services.	Reinforce essential building infrastructure facilities to meet earthquake standards.	Construct new public safety building.	Mayor/Fire/Police	ROM – $5,000,000 2015 – Design Structure
		Install propane backup systems on City natural gas generators.	Fire/Public Works	ROM – $50,000 2016 – Seek Funding 2017 – Construct System

Drought

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will protect the Valley's aquifer and our water supply.	Conserve water so that aquifer is not depleted.	Develop a water conservation plan.	City of Ketchum's water consultant, Wendy Pabich	Underway.
		Implement.	Public Works/Planning	ROM – Unknown 2015 – Cost to determined

Avalanche

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will reduce potential death and /or, injuries to the public as well as protect city infrastructure through public warning systems and increased public awareness of avalanche potentials.	Protect lives	Install permanent electrically activated avalanche danger signs in avalanche areas.	Fire/Public Works	ROM - $100,000 2015 – Design System
		Locate, identify and provide known local area isolation shut down controls for utilities such as natural gas and power.	Fire/Public Works/Intermountain Gas/Idaho Power	ROM – Unknown 2015 – Determine Locations and Cost Estimate

Winter Storm - See Avalanche, Power Outage and Flooding.

Lightning

Goal	*Objective*	*Project*	*Responsible Entity*	*S Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will protect its buildings and infrastructure from damage by lightning.	Protect City buildings from damage from lightning strikes.	Install code compliant grounding and lightning protection on all City buildings.	Fire/Public Works	ROM – Unknown 2015 – Determine Locations and Cost Estimate

Hail/Rain – See Flooding.

Power Outage

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will provide auxiliary power and fuel source for City services in case of power outage.	Maintain service level in a power outage situation.	Install generating systems at City buildings.	Public Works	ROM -$500,000 2015 – Seek Funding
		Install a fuel source for City vehicles.	Public Works	ROM - $150,000 2016 – Seek Funding
		Identify evacuation shelters and provide backup power systems for them.	Fire/Public Works/Disaster Services	ROM - $500,000 2015 – Seek Funding

Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will increase the security of City infrastructure.	Reduce the terrorism risk to City infrastructure.	Secure water tanks and pump houses with fencing and cameras.	Public Works	ROM - $150,000 2015 – Design Fencing and protection systems 2016 – Seek Funding 2017 – Install Systems

Firefighting

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will ensure that water system capacity meets fire demands	Water system to meet fire demands with largest well out of service in the event of equipment failure or planned maintenance	Develop redundant groundwater sources (well & well house)	Public Works	ROM - $3,000,000 Project identified in 2010 Water System Master Plan but project not funded 2015 – Seek Funding

Wildfires

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will reduce risk to lives and properties from wildfires.	Protect lives and property.	Create and fund Firewise Team to provide education and mitigation of wildfire risks.	Mayor/Fire	ROM – 5,000 2015 – Seek Funding
		Develop and implement plan to make the City of Ketchum a designated Firewise Community	Fire/Planning/Mayor	ROM – No Cost 2015 – Continue Efforts

Evacuation – See Blaine County Emergency Operations Plan.

Cyber-Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will reduce the potential for external non-authorized access to protected information and systems.	Protect assets and City infrastructure from cyberterrorism attacks.	Interconnect all City infrastructures with primary and redundant communications systems.	Fire/Utilities/IT	ROM - $1,500,000 2015 – Design Upgrades 2017 – Seek Funding 2018 – Implement
		Install secure firewall and controlled access systems to all City infrastructure property.	Fire/Public Works/IT	ROM – $250,000 2015 – Seek Funding

Hazardous Materials

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will identify and increase awareness of potential hazardous material transport and storage locations in the city.	Keep citizens safe from potential hazardous waste spills.	Conduct a hazardous waste study.	Public Works/Fire	ROM – $25,000 2016 – Seek Funding 2017 – Conduct Study
		Conduct a public awareness program.	Public Works/Fire	On-going – LEPC Website
		Place placards to identify hazardous waste at all hazardous waste locations.	Public Works/Fire	ROM - $2500 2015 – Install Placards

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
		Implement regulations and permitting process governing the possession and/or transportation of hazardous materials.	Public Works/Fire	ROM -$5000 2015 – Develop Permit Process

General Hazards

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
The City of Ketchum will ensure that its networks and communications systems are fully functional in the event of an emergency.	Ensure that there is a backup network communications system in the event that the primary system fails.	Install a redundant communications network system for all City infrastructure.	IT/Fire	ROM – $1,500,000 2016 – Seek Funding 2017 – Installation

City of Ketchum Project Ranking

City of Ketchum	
Project	**Score – 1= L, 2=M, 3=H**
Flooding	
Sewer line adjacent to Broadway Ct., including remediation Sewer line crossing at 419 Broadway, including remediation Sewer line crossing Warm Springs Creek at Aspen Drive, including remediation.	H
Remove blockages from drainage channels including blockages from wastewater discharge effluent pipe into the Big Wood River	H
Mitigate bank overflows onto Picabo Street, Skiway Drive, Manchester Court and Wood River drive from 2017 flood event	H
Revise floodplain ordinance to comply with FEMA NFIP requirements.	H
Continue to refine floodplain ordinance for effectiveness and compliance.	H
Continue to participate in the NFIP.	H
Lidar mapping of the Bigwood River in Ketchum.	H
Investigate report of new bridges in Bigwood Watershed Flood Risk Report.	M
Continue to participate in the CRS.	H
Maintain Floodplain Manager Certification	H
Study drainage systems and develop Master Plan.	H
Develop Management Plan.	H
Implement.	H
Develop Ordinances to Manage Storm Water in Subdivisions.	M
Study drainage channel system for possible blockages.	M
Remove blockages from drainage channels. Maintain.	M
Trail Creek Dam inundation mapping study.	M
Lower the City's CRS rating from 6 to 5.	L
Geological	
Harden city water supply against damage from Earthquakes.	L

Harden city sewer system against damage from earthquakes.	L
Drought	
Develop a water conservation plan.	H
Implement.	M
Avalanche	
Install permanent electrically activated avalanche danger signs in avalanche areas.	M
Locate, identify and provide known local area isolation shut down controls for utilities such as natural gas and power.	M
Lightning	
Install code compliant grounding and lightning protection on all City buildings.	L
Power Outage	
Install generating systems at City buildings.	H
Install a fuel source for City vehicles.	H
Identify evacuation shelters and provide backup power systems for them.	M
Terrorism	
Secure water tanks and pump houses with fencing and cameras.	L
Earthquake	
Construct new public safety building.	H
Install propane backup systems on City natural gas generators.	L
Firefighting	
Develop redundant groundwater sources (well & well house)	H
Wildfires	
Create and fund Firewise Team to provide education and mitigation of wildfire risks.	M
Develop and implement plan to make the City of Ketchum a designated Firewise Community	M

Cyber-Terrorism	
Interconnect all City infrastructures with primary and redundant communications systems.	H
Install secure firewall and controlled access systems to all City infrastructure property.	H
HazMat	
Place placards to identify hazardous waste at all hazardous waste locations.	H
Conduct a hazardous waste study.	M
Conduct a public awareness program.	M
Implement regulations and permitting process governing the possession and/or transportation of hazardous materials.	L
General Hazards	
Install a redundant communications network system for all City infrastructures.	M

City of Ketchum Planning Meeting Sign-In Sheet

City of Ketchum
Attendance Log

Date: August 31, 2017

Meeting Topic: 2017 Flood Event Recap and All Hazards Mitigation Plan update

Printed Name	Department	Signature
Brittany Skelton	Planning & Building	
Mike Elle	Ketchum Fire	
Micah Austin	P&R	
Brian Christensen	Street/Facilities	
Mich Mummert	Wastewater Supervisor	
Pat Cooley	Interim Water Supervisor	

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ATTACHMENT 4

AMENDED PROJECTS FROM FALL 2018 PROJECT REVIEW.

During the annual review of the All Hazards Mitigation Plan, the members of the Blaine County LEPC had a meeting to discuss updating the projects within the All Hazards Mitigation Plan on August 08, 2018. During the meeting, it was decided that each jurisdiction that wanted to change their projects could do so in local meetings. Those entities met and have supplied the below updates to the projects within this All Hazard Mitigation Plan.

Blaine County Updated Projects and Rankings

Blaine County	
Project	**Rank**
Continue to review and support amendments to the Blaine County Fire Protection Ordinance which establishes road widths, access, water supply, and building modifications suitable to ensure new structures are better protected.	H
Consider an overlay district for the WUI areas in the County Comprehensive Plan	H
Streambank stabilization of Big Wood River in the areas north and south of the Bellevue Bridge on Broadford Road. These areas include the Fisherman's Access, Broadford Levee and Howard Preserve.	H
Streambank stabilization of the BWR southwest bank upstream of the BCRD RR Bridge west of State Highway 75 and north of Hospital Dr.	H
Streambank stabilization of east bank of BWR along State Highway 75 southbound road right of way south of Lake Creek Drive.	H
Install power backup systems on county public safety infrastructure.	H
Conduct a study for recharge in flood prone areas	H
Design and build radio communications system on Galena Summit	H
Obtain multi-band radios for all first responders	H
Complete a reach wide study of Big Wood River for future planning and flood risk mitigation and reduction	H
Stream bank stabilization of Big Wood River near Angela Drive	H
Stream bank stabilization of Big Wood River near Colorado Gulch Pedestrian Bridge	H
Repair and improve drainage along Ohio Gulch Road	H
Complete projects stated within Blaine County Idaho Community Wildfire Protection Plan, Attachment 2 of AHMP	H
Continue Culvert and Bridge Maintenance/ Placement and Gravel Road Upgrade Program	M
Stream bank stabilization of Big Wood River near Glendale Bridge	M
Stream bank stabilization of Big Wood River near the Hiawatha Canal point of diversion	M
Maintain CRS Status for the County	M
Install Road Signs as prescribed by NFPA Standards	M
Install seasonal road signage	M
Purchase road closed, water over road signs	M
Revise and update the floodplain overlay district & stream alteration permit codes	L
Develop Coordination Code, Operations and Restrictions	L
Develop Memorandums of Understanding for Blaine County lands not within a fire district	L
Complete Culvert Capacity Study	
Construct injection capability for floodwaters on Big Wood River	L
Stockpile temporary flood fight material at W Glendale BCRB shop	L
Develop a listing of schools and public buildings that need to be seismically retrofitted	L
Earthquake protection or hardening county facilities	L
Develop a standard practice for roadside vegetation management	L
Develop a plan & methodology for protection from biological threats	L
Conduct a county terrorism assessment on all infrastructure, facilities, and digital systems	L

GOALS

BLAINE COUNTY

Severe Weather

- Blaine County will develop methods to mitigate the losses due to severe weather in the County.

Drought

- Evaluate potential for supply augmentation, primarily from expansion of groundwater supplies.
- Evaluate demand reduction measures

Flooding

- Blaine County will continue to participate in the National Flood Insurance Program and develop actions that will reduce the damage to County infrastructure due to flash and stream flooding.

Geological

- Blaine County will reduce potential damage to County infrastructure and structures through implementation of earthquake mitigation techniques.
- Blaine County will reduce the potential damage to property from Landslides and Avalanches by adopting codes and standards for construction in landslide prone areas.

Wildfire

- Blaine County will reduce the losses caused by wildfire by utilizing recommendations and projects listed in the Blaine County Community Wildfire Protection Plan (CWPP).

Biological

- Blaine County will seek to reduce the exposure of humans and animals to infectious diseases.

Structural Fire

- Blaine County will seek to reduce losses from Structure fires through working with private property owners.

Terrorism

- Blaine County will identify measures to protect critical County infrastructure, facilities, and digital systems from potential terror incidents.
- Blaine County will improve interoperable communications.

BLAINE COUNTY

Severe Weather

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will develop methods to mitigate the losses due to severe weather in the County.	Improve the Safety of County Roads and Bridges	Install temporary Windbreaks in areas where blowing snow occurs along Highway 75 between Bellevue and south county line	ITD	ROM - $50,000 2016 –Identify Funding 2017 – Install Fencing (Not included in Ranking)
		Install Seasonal Road Signage	Road and Bridge	2015-ROM -$30000 Completed 2017

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will continue to participate in the National Flood Insurance Program and develop actions that will reduce the damage to County infrastructure due to flash and stream flooding.	Maintain the NFIP Requirements	Maintain CRS Status for the County	Floodplain Administrator	No Cost
		Complete Floodplain Manager Certification Program	Floodplain Administrator	No Cost Completed 2016
		Construct Injection Capability for floodwaters on Big Wood River	Ground Water Districts and Flood Control District	ROM - $500,000 2016 – Engineer Solution

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
		Conduct a study for recharge in flood prone areas	Ground Water Districts and Flood Control District	ROM - $50,000
(Not included in Ranking)		Install Culverts to protect roadways along HWY 26 in the Carey Area	State of Idaho ITD	ROM – $150,000 2015 – Place on Future Schedule 2016 – Seek Funding
	Improve Drainage System	Continue Culvert and Bridge Maintenance/ Placement and Gravel Road Upgrade Program	Blaine County Road and Bridge	ROM-$450,000/Yr for Crushed Rock ROM-$60,000/Yr for Culverts and Culvert Cleaning ROM-$80,000/Yr for Tree Removal and Ditch Work ROM-$450,000 For Replacement of Muldoon Creek Bridge, Upper High 5 Bridge and W. Glendale Bridge Replacement ROM-$40000/YR For Engineering Bridge Designs 2015-2030 ROM=$700000 Per Year to Continue 100 Mile Gravel Road Upgrade Program to improve road drainage and prevent road damage/road closures from flooding through culverts, dry wells, ditches proper crow and road materials ROM-$3000 per year to update record of bridges and culverts on county roads
	Provide Big Wood River Flood Fight Capability	Stockpile Temporary flood fight materials at the W. Glendale BCRB Shop	Blaine County Road and Bridge	ROM-$200,000 For 3000 Tons of Rip, 100 Concrete Blocks, and 3000 Tons of Pit Run Stockpiled BCRB . ROM-$500000 For an on Call Contractor Rock Crushing and Haul to Flood Fight Locations.

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
	Big Wood River Flood Mitigation Broadford RD	Stream bank stabilization of west bank of Bellevue Bridge on Broadford Road.	Blaine County and Flood Control District	ROM-$50,000 Design Permitting ROM-$300,000 Materials and Rental Equipment *Schedule - TBD*
	Big Wood River Flood Mitigation for Hospital Bridge	Stream bank stabilization of upstream Southwest bank BCRD RR Bridge Hospital Drive	Blaine County and Flood Control District	ROM-$50,000 Design Permitting ROM-$400,000 Materials and Rental Equipment *Schedule - TBD*
	Flood Warnings Along County Roads	Purchase Road Closed, and Water over Road Signs	Blaine County R&B	ROM- $30,000 for Signs and barricades *Completed 2017*
	Big Wood River Flood Mitigation and Protection of utilities for Highway 75 near Lake Creek	Stream bank stabilization of east bank along Highway 75 road right of way.	ITD and Flood Control District	ROM-$50,000 Design Permitting ROM-$400,000 Materials and Rental Equipment *Schedule - TBD*
	Big Wood River Flood Mitigation	Complete a reach wide study of Big Wood River for future planning and flood risk mitigation and reduction	Blaine County and local NGOs	ROM-$150,000 Design
	Big Wood River Flood Mitigation	Revise and update the floodplain overlay district & stream alteration permit codes	Blaine County	ROM-Staff Time
	Big Wood River Flood Mitigation and Protection of Point of Diversion near Hiawatha Canal	Stream bank stabilization of Big Wood River near the Hiawatha Canal point of diversion	Hiawatha Canal Flood Control District	ROM-$300,000 Design

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
	Big Wood River Flood Mitigation and Protection of roadway near Angela Drive	Stream bank stabilization of Big Wood River near Angela Drive	Blaine County	ROM-$250,000 Design, Permitting and Construction
	Big Wood River Flood Mitigation and Protection of Glendale Bridge	Stream bank stabilization of Big Wood River near Glendale Bridge	Flood Control District	ROM-$250,000 Design, Permitting and Construction
	Big Wood River Stream Restoration and Protection of Pedestrian Bridge	Stream bank stabilization of Big Wood River near Colorado Gulch Pedestrian Bridge	Blaine County and Wood River Land Trust	ROM-$100,000 Design, Permitting and Construction
	Reduce Damage from overland flooding due to rain on snow events	Repair and improve drainage along Ohio Gulch Road	Blaine County Road and Bridge	ROM-$10,000 Design, Permitting and Construction
		Complete Culvert Capacity Study	Blaine County Road and Bridge	ROM-$100,000 Design, Permitting and Construction

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will reduce potential damage to County infrastructure and structures through implementation of earthquake mitigation techniques.	Priority should be given to schools, public buildings, community evacuation and assessable sites.	Earthquake Protection or Hardening County facilities	County Operations	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
		Develop a listing of schools and public buildings that need to be seismically retrofitted	District Building Official	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs
		Install power backup systems on county public safety infrastructure.	County, Fire and EMS Districts, Sun Valley Institute	ROM – $50,000 2016 – Seek Funding 2017 – Construct System

Wildfire

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will reduce the losses caused by wildfire by utilizing recommendations and programs listed in the Blaine County Community Wildfire Protection Plan.	Improve Protection through the proper use of Ordinances, Codes, mutual aid agreements and MOUs	Continue to review and support amendments to the Blaine County Fire Protection Ordinance and Hillside Ordinance which establishes road widths, access, water supply, and building modifications suitable to ensure new structures are better protected.	Blaine County Commissioners, P & Z Administrator/Fire Districts	On Schedule 2018
		Consider an overlay district for the WUI areas in the County Comprehensive Plan	P & Z Administrator	
		Develop Memorandums of Understanding for Blaine County lands not within a fire district	Disaster Services Blaine County Commissioners	
		Develop Coordination Code, Operations and Restrictions	Disaster Services Blaine County Fire Chiefs	

Goal	***Objective***	***Project***	***Responsible Entity***	***Order of Magnitude Cost & Planning Horizon***
	Improve access to areas prone to Wildland Fire	Maintain a listing of roads, bridges, cattle guards, culverts, and other limiting conditions and incorporate improvements into the County Transportation Plan	Fire Districts, Blaine County	Road and Bridge Inspection Records in IWORQ Data base complement culvert and cattle guard inspection and record estimate completion date is 2018.
	Conduct Roadside Vegetation Treatments to reduce flammable fuels immediately adjacent to roads in high risk areas.	Develop a standard practice for roadside vegetation management.	Fire District, Blaine County	ROM – No Cost – Work with Road and Bridge to develop policy
Blaine County will reduce fuels in the Wildland Urban Interface	Implement a countywide fuels reduction program	Complete projects stated within Blaine County Idaho Community Wildfire Protection Plan, Attachment 2 of AHMP	All Blaine County Fire Protection Districts, Blaine County	Ongoing – Community Wildfire Protection Plan
	Update and Improve Road Signing and Rural Addressing	Install Road Signs as prescribed by NFPA Standards	Road and Bridge	ROM - $50,000 2017 – Seek BLM or LTHAC Grant to purchase signs. 2018 – Install Signs
Blaine County will improve interoperable communications.	Improve interoperable communications	Obtain multi-band radios for all first responders	Blaine County BCSO Fire Districts	ROM – $1,500,000 2017 – Develop resource list 2018– Work to secure funding

Biological

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will seek to reduce the exposure of humans and animals to infectious diseases.	Identify risks from potential biological threats	Develop a plan & methodology to protect from biological threats	Health District Blaine County Idaho Dept. of Ag	ROM - $10,000 2018– Develop Plan

Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Blaine County will identify measures to protect critical County infrastructure, facilities, and digital systems from potential terror incidents.	Identify and protect potential terrorism targets.	Conduct a County Terrorism assessment on all infrastructure, facilities, and digital systems.	All County Departments	ROM – Unknown 2017 – Develop Process (THIRA) 2018– Begin to Conduct Assessments
Blaine County will improve interoperable communications.	Improve interoperable communications	Design and build radio communications system on Galena Summit	Blaine County BCSO	ROM – $1,500,000 2017 – Start planning and permitting and design 2018– Work to secure funding
		Obtain multi-band radios for all first responders	Blaine County BCSO Fire Districts	ROM – $1,500,000 2017 – Develop resource list 2018– Work to secure funding

Blaine County Sign-In Sheet

L.E.P.C

Name and Agency: DATE: 9-12-2018

1. Chris Corwin	Blaine County O.S.
2. Craig Aberhach	HFD \ WRVR
3. Angenie McCleary	BC
4. Katie Bray	SVI
5. Bert Lassmann	WRFR
6. Tom Santo	WRLT
7. Dave Bell	FCD 9
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City of Hailey Updated Projects and Rankings

CITY OF HAILEY

Severe Weather

Extreme Cold

- Reduce the impact of long periods of extended cold, due to power outages, or interruption of other heating fuels.

Winter Storms

- Reduce impacts from winter storms.

Drought

- The City will examine ways to mitigate drought.

Flooding

- Reduce impacts from flooding city-wide, and prevent structures from being constructed in flood prone areas.
- Continue to participate in the NFIP.

Geological

Earthquake

- Reduce potential damage to city infrastructure and structures.

Avalanche/Landslides

- Reduce the potential of deaths or injury by prohibiting construction of structures on “Red Zone” areas and limiting development in “Blue Zone” avalanche areas.
- Increased awareness of avalanche/landslide areas through informational programs and signage is recommended.

Wildfire

- Reduce the losses caused by wildfires, and their impact on persons affected by them.

Terrorism

- The City will identify measures to protect critical City infrastructure, facilities, and digital systems from potential terror incidents.

CITY OF HAILEY

Severe Weather

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the impact of long periods of extended cold, due to power outages, or interruption of other heating fuels.	Emergency Sheltering	Identify a community shelter and develop an MOU with the owner for use during an emergency.	Mayor & City Council	ROM – No Cost 2015 – Identify Shelter and Sign MOU
Reduce impacts from winter storms.		Survey Critical Infrastructure to determine its snow load capacity. This project could conceivably be combined with the earthquake seismic assessment.	City Engineer	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs Ongoing
	Protect from Effects of Unscheduled Outages	Purchase an alternate power generation device(s) to assist in water supply demands during a power outage	Public Works	ROM – 10,000 2016 – Seek Funding 2017 – Install Generator Ongoing
	Drought Planning	Address cross-contamination and backflow in the clean drinking water for the City of Hailey	Public Works	ROM - $25,000 2016 – Engineer Solution Ongoing

Flooding

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Study, plan, implement and/or participate in flood mitigation efforts	Mitigate flood hazards affecting public infrastructure and properties	Improve residential storm water management and drainage in the Della View subdivision	Public Works	$750,000 2017-2019
		Add flood water conveyance swales and channels in Heagle Park	Public Works	$150,000 2017-2019
		Protect wastewater lift station and access road in Della View subdivision	Public Works	$200,000-$500,000 2017-2019
		Conduct feasible and appropriate mitigation projects associated with the Draper Preserve and river channel adjacent to Della View subdivision	Mayor and City Council	$1,500,000 2017-2022
Reduce property damage from flooding	Mitigate flood hazards affecting private property	Require additional freeboard for structures located in the regulatory floodplain	Community Development	$3000 Completed 2018
		Seek funding to assist private property owners to elevate homes that do not meet code	Community Development and Public Works	$300,000 2017-2019
		Continue to participate in the National Flood Insurance Program	Community Development	Ongoing

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
	Protect Property from Flooding	Install Culvert in south end of Quigley Drainage	Public Works	ROM – 2500 2015 – No Longer Required
		Assess Della View area drainage	Floodplain Administrator	ROM $5000 2015 – Conduct Assessment
		Assess feasibility to buyout homeowners in floodplain	Blaine County Disaster Services	ROM No Costs
		Complete study of potential for debris and sheet flooding and means to address problem.	Community Development	ROM $250,000

Geological

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce potential damage to city infrastructure and structures.	Protect Infrastructure	Perform a Structural Engineering Survey to identify City and public buildings that need to be seismically retrofitted.	City Engineer	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs
		Seismically retrofit critical buildings and infrastructure.	City Engineer	ROM – Undetermined 2015 – Conduct Engineering Analysis to determine scope and costs

Avalanche/Landslide

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the potential of deaths or injury by prohibiting construction of structures on "Red Zone" areas and limiting development in "Blue Zone" avalanche areas.	Avalanche/Landslide Protection	Perform a landslide and avalanche identification study	City Engineer	ROM – $15,000 2015 – Secure Funding 2016 – Conduct Study
		Develop a public awareness campaign to increase the awareness of avalanche/landslide areas through informational programs and signage.	Mayor / City Council	No Cost 2015 – Provide Education Materials on the Blaine County LEPC Website

Wildfire

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the losses caused by wildfires, and their impact on persons affected by them.	Improve Wildland Urban Interface Planning	Develop a GIS Based Fuel Model that can be used in Fire Response	Fire Department	ROM – $25,000 2016 – Work with WUI Committee to develop joint project
		Bigwood River, West Hailey, East Hailey Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	Hailey City Fire Department	Ongoing – Firewise Program

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
		Improve or Create secondary access or egress for subdivisions that do not meet current fire codes.	Community Development	ROM $200,000
		Study feasibility and acquisition of additional apparatus to meet future growth needs.	Fire Department	ROM $35,000
		Develop better air quality monitoring	Idaho DEQ	ROM $35,000

Biological – *Pandemic Flu*

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Be prepared to adequately respond to citizen's long-term needs during an extended outbreak of disease or famine.	Improve Pandemic Preparedness	Store necessary health care supplies for citizens and guests of Hailey, in a home care situation.	SCPHD	ROM – Unknown 2015 – Determine Need 2016 – Set Policy and Seek Funding 2017- Purchase Supplies

Terrorism

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Reduce the impact of terrorism or vandalism	Protect Community Infrastructure	Develop methods to secure critical infrastructure.	Public Works	ROM – Unknown 2015 – Develop Process (THIRA) 2016 – Begin to Conduct Assessments

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
		Acquire apparatus for rescue and response to terrorist events	Fire and Police Departments	ROM $500,000

Other

Goal	*Objective*	*Project*	*Responsible Entity*	*Order of Magnitude Cost & Planning Horizon*
Develop a viable Continuity of Government Plan	Improve Disaster Response	Develop a comprehensive Continuity of Operations plan	Mayor / City Council Blaine County	ROM - $5000 2016– Include as a SHSP Planning Activity
		Construct Fuel Storage at the Street Department Shop	Public Works	ROM - $15,000 2016- Identify Funding 2017 – Construct Storage
Protect public water supply	Better security of public drinking water system	Move or secure water supply sources of public drinking water supply.	Public Works	ROM - $500,000

City of Hailey Project Ranking

City of Hailey	
	Rank
Improve residential storm water management/drainage in the Della View subdivision	H
Add flood water conveyance swales/channels in Heagle Park	H
Protect wastewater lift station and access road in Della View subdivision	H
Conduct feasible and appropriate mitigation projects associated with the Draper Preserve and the river channel adjacent to Della View subdivision	H
Require additional freeboard for structures located in the regulatory floodplain	H
Seek funding to assist private property owners to elevate homes that do not meet code	H
Address cross-contamination and backflow in the clean drinking water for the City of Hailey	H
Identify a community shelter and develop an MOU with the owner for use during an emergency.	H
Develop methods to secure critical infrastructure.	H
Develop a comprehensive Continuity of Government plan	H
Install Culvert in south end of Quigley Drainage	M
Purchase a mobile generator to assist in water supply demands during a power outage	M
Develop a public awareness campaign to increase the awareness of avalanche/landslide areas through informational programs and signage	M
Perform a landslide identification study	M
Construct Fuel Storage at the Street Department Shop	M
Survey Critical Infrastructure to determine its snow load capacity. This project could conceivably be combined with the earthquake seismic assessment.	L
Perform a Structural Engineering Survey to identify City and public buildings that need to be seismically retrofitted.	L
Assess Della View area drainage	L
Bigwood River, West Hailey Prevention/education, FD/VFD assist, prescribed fire, mechanical, chemical, seeding/planting	L
Develop a GIS Based Fuel Model that can be used in Fire Response	L
Store necessary health care supplies for citizens and guests of Hailey, in a home care situation. (SCPHD Project)	L
Seismically retrofit critical buildings and infrastructure.	L

City of Hailey Planning Meeting Sign-In Sheet

L.E.P.C

Name and Agency: DATE: 9-13-2018

1. Chris Corwin Blaine County
2. Craig Abarbach HFD
3. Lisa Horowitz Hailey C.D.
4. REBECCA F. BONDY HAILEY C.D.
5. Heather Dawson Hailey Admin
6. Brian Yeager CDH
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